

2011 Military Health System Conference

An Econometric Model of_ Health Services Delivery National Capital Area (NCA)

The Quadruple Aim: Working Together, Achieving Success

CAPT Steven Keener
Mr. Pradeep G. Gidwani, SES



TRICARE Regional Office - North

Agenda



- Introduction: Statement of the challenge
- TRO North Approach
 - DoD imperatives: Quadruple Aim in Support of the Total Force
 - Readiness, Population Health, Experience of Care & Per Capita Cost
 - Assumptions
 - Demographics
 - Market Analysis
 - NCA at a glance
 - Beneficiary Category (ADSM, ADFM, RET, RETFM, Other)
 - Eligible vs. Enrolled Beneficiaries
 - Workload Recapture Potential
 - Referrals to Network
 - Top 10 Major Diagnostic Categories Diagnoses and Cost
 - Capacity
 - Recommendations
- Improvements to the Assessment
 - GIS Capabilities



INTRODUCTION

WHAT WAS THE CHALLENGE?

**Mr. Pradeep G. Gidwani, SES,
Director TRICARE Region, North**

**Mr. Joe Marshall, SES,
Deputy Chief for Resource Management/Comptroller,
Navy Medicine**



CAPT Steve Keener, Chief of Staff, TRO-N

TRO-N METHODOLOGY

ASSUMPTIONS

DEMOGRAPHICS

Assumptions



- Growth rate of 22.7% in VA counties since 2000 will not continue
 - Housing affordability a critical factor for demographic shift
- Access to care exacerbated (drive time) with shifting demographics from Beltway
 - Especially south of the Beltway towards Fredericksburg and west to Culpeper
- Fairfax County saturated but will experience a growth of 30,000 from BRAC
- Conflict(s) end will result in different demand elasticity
- New Walter Reed National Military Medical Center and Fort Belvoir hospital will absorb current workload from NNMC, WRAMC & DeWitt
- A robust provider network does not indicate willingness of these providers wanting to work in our military hospitals and clinics



DEMOGRAPHICS



Market Analysis

Maryland & Virginia Population Trend 2000-2009

CITY	2000 Total pop	2009 Total pop (est)	%Total pop change	2005 Military pop	2009 Military pop	2009 Military %of pop	%Military pop change 2005 / 2009
ANNE ARUNDEL	489,664	521,209	6.4%	45,647	44,685	8.6%	-2.1%
CHARLES	120,546	142,226	18.0%	15,254	14,099	9.9%	-7.6%
FREDERICK	195,276	227,980	16.7%	7,875	8,307	3.6%	5.5%
HOWARD	247,849	281,884	13.7%	6,089	5,975	2.1%	-1.9%
MONTGOMERY	873,346	971,600	11.3%	28,641	28,720	3.0%	0.3%
PRINCE GEORGES	801,516	834,560	4.1%	41,482	37,887	4.5%	-8.7%
SO MD Total	2,728,197	2,979,459	9.2%	144,988	139,673	4.7%	-3.7%

MD: Census available since 2000
DoD: Census available since 2005
 Decreasing except for Frederick County
 Overall DoD decrease -3.7%



CITY	2000 Total pop	2009 Total pop (est)	%Total pop change	2005 Military pop	2009 Military pop	2009 Military %of pop	%Military pop change 2005 / 2009
CULPEPER	34,263	46,502	35.7%	1,109	1,407	3.0%	26.9%
FAIRFAX	969,983	1,037,605	7.0%	86,177	89,249	8.6%	3.6%
FAUQUIER	55,185	68,010	23.2%	2,666	2,863	4.2%	7.4%
LOUDOUN	169,599	301,171	77.6%	8,529	10,665	3.5%	25.0%
PRINCE WILLIAM	281,287	379,116	34.8%	43,852	49,176	13.0%	12.1%
SPOTSYLVANIA	90,395	120,977	33.8%	10,771	11,892	9.8%	10.4%
STAFFORD	92,446	124,166	34.3%	22,688	25,613	20.6%	12.9%
NOVA Total	1,693,158	2,077,547	22.7%	175,792	190,865	9.2%	8.6%

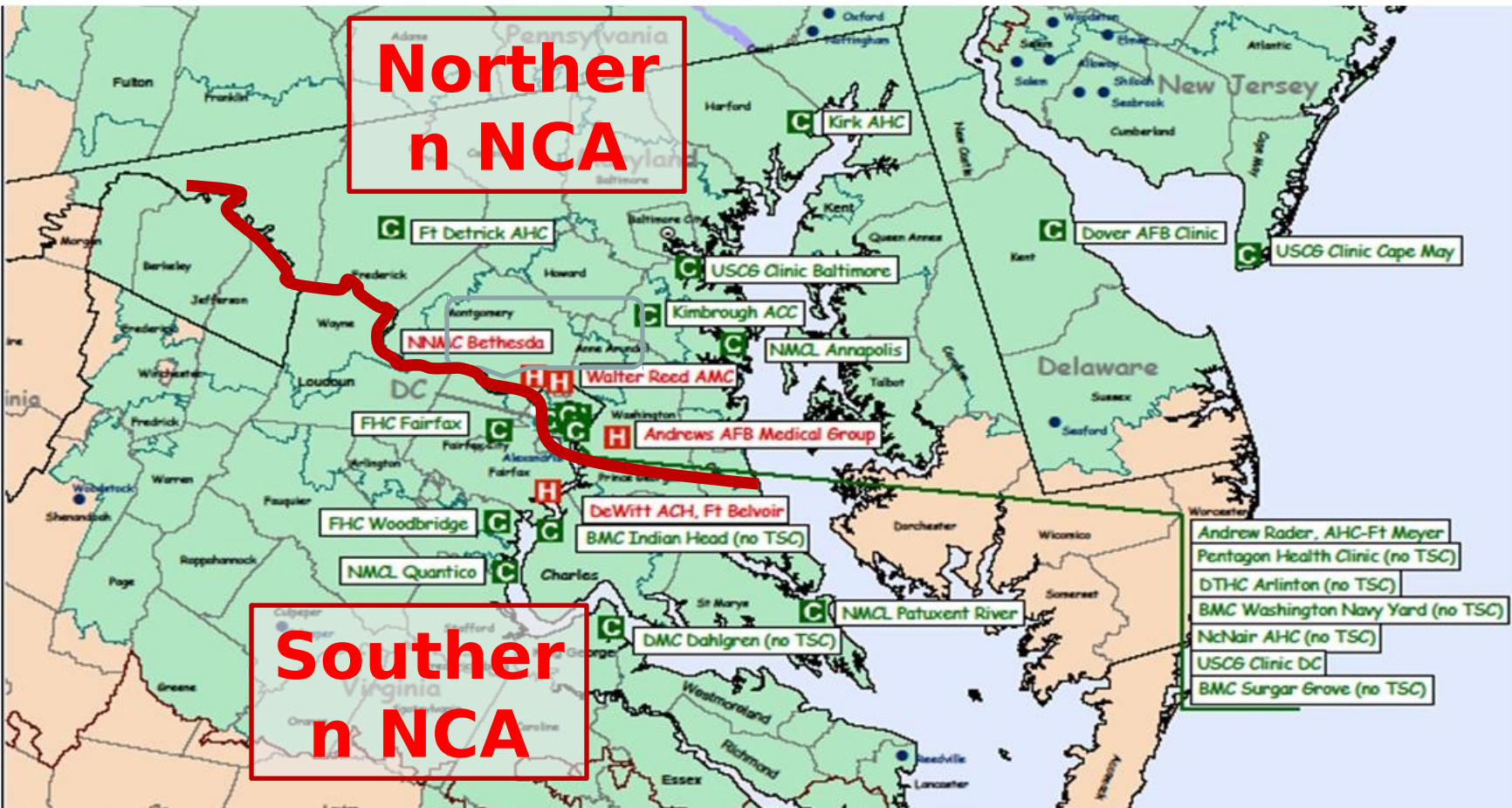
VA: Census available since 2000
DoD: Census available since 2005
 Increasing in all 7 Counties
 Overall DoD increase 8.6%



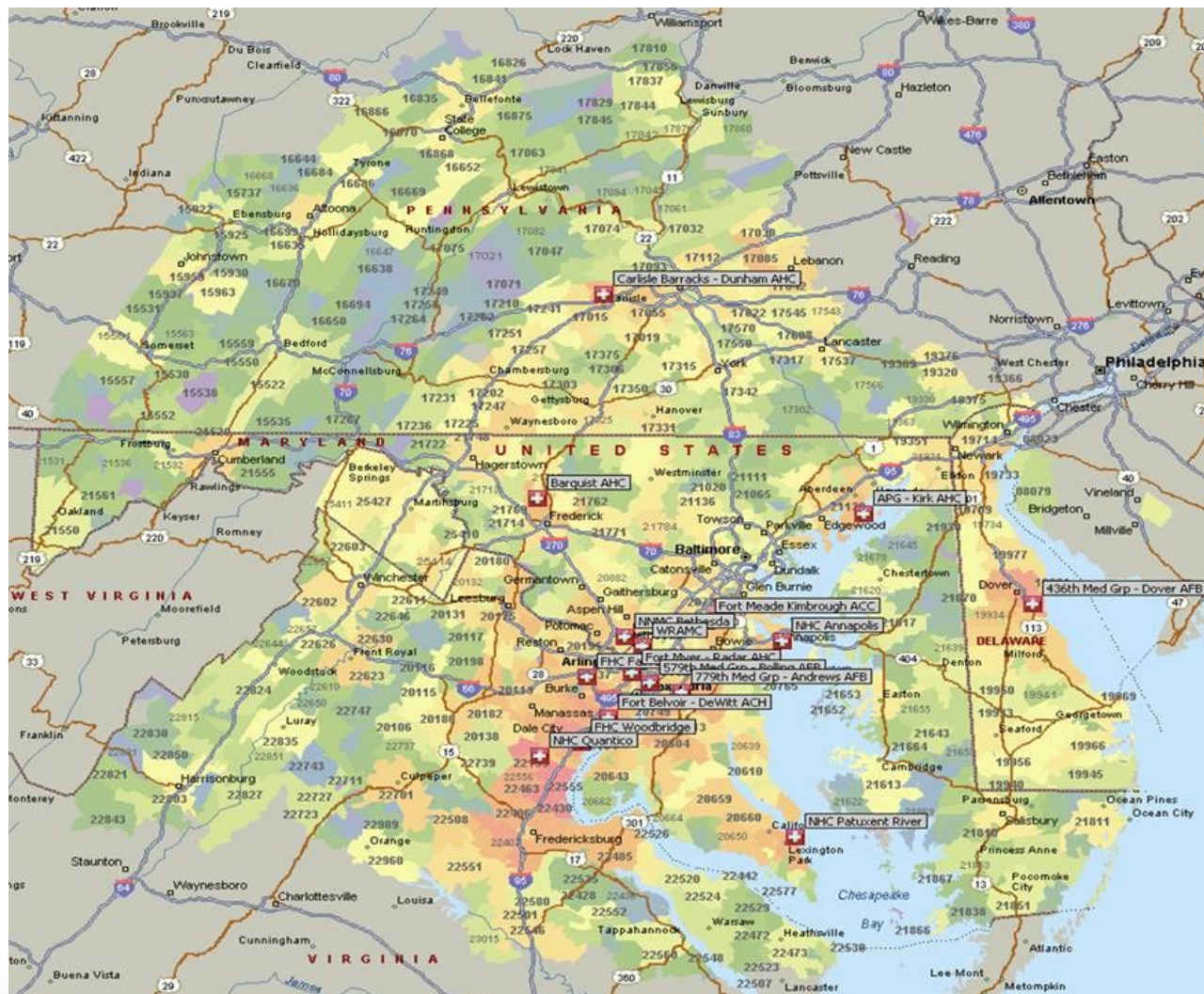
NCA at a Glance

Total Eligibles in NCA FY 2010 = 574,172

24 Military Hospitals & Clinics



NCA FY10 Total Eligible Population



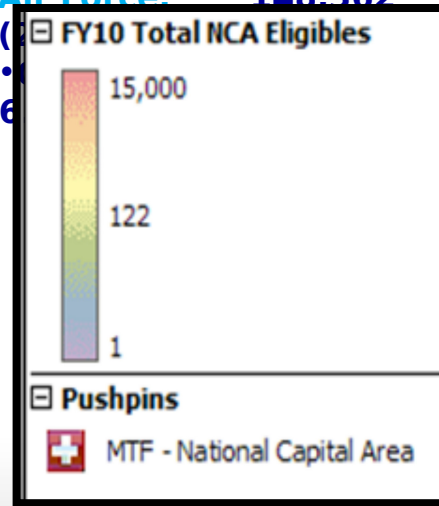
- Eligible population for NCA:

574,172

- Over 275,191 (48%) live around Ft. Belvoir & South

- Navy/USMC: 151,360 (26.4%)
- Army: 179,817 (31.3%)
- Air Force: 148,362 (25.8%)

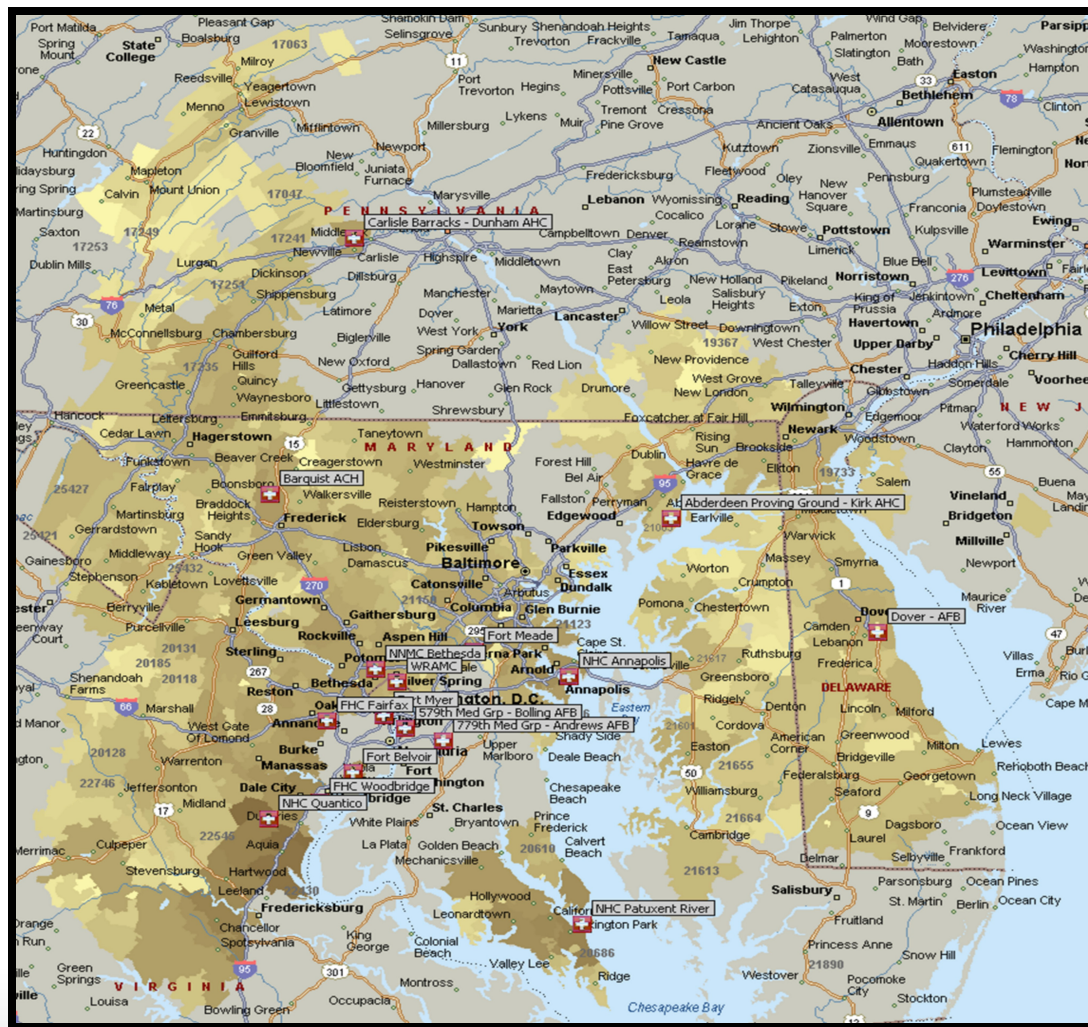
(16%) FY10 Total NCA Eligibles



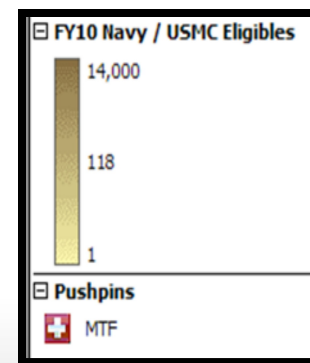
FY10 Navy/USMC Eligible Population for NCA PSAs



North

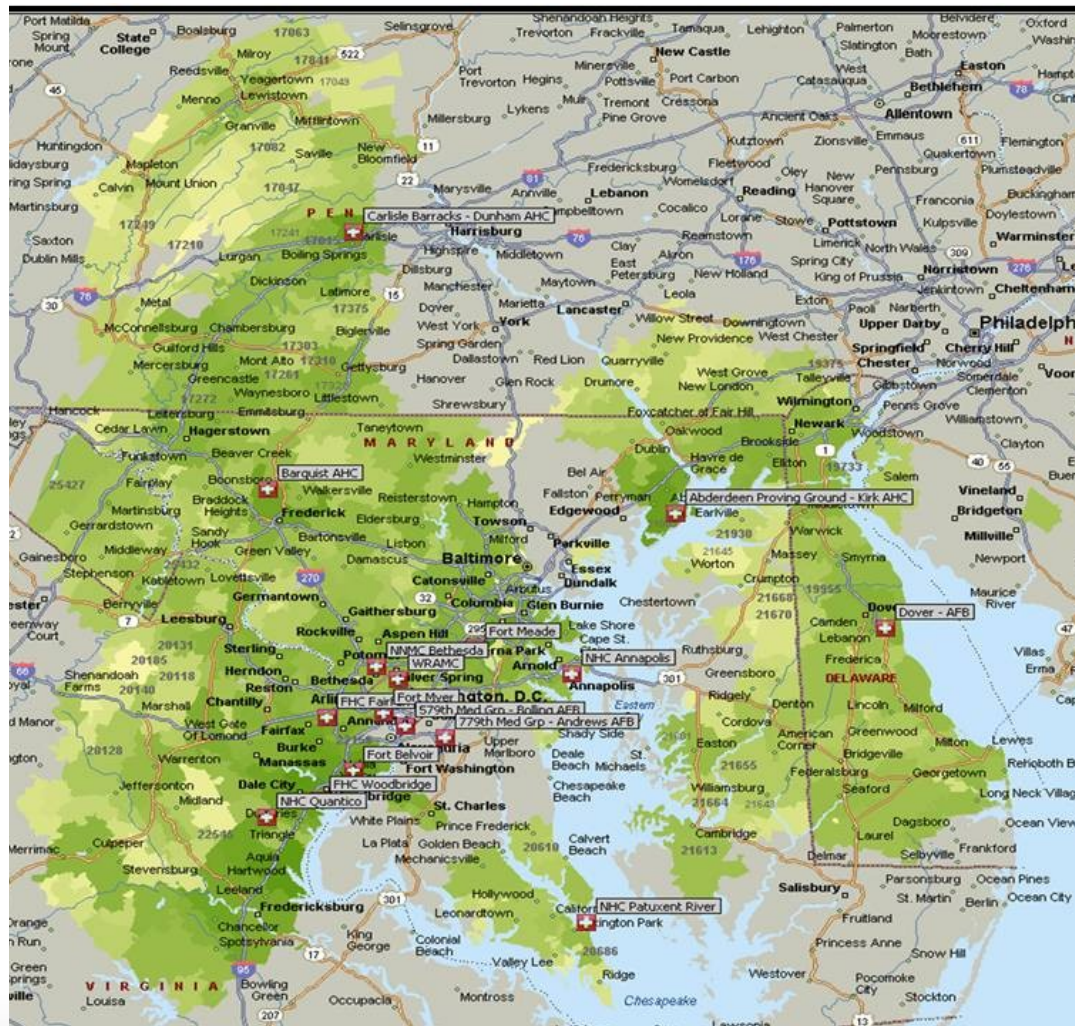


MTF	PSA Eligibles	Navy/USMC Eligibles	% of PSA Eligibles	Navy/USMC Enrolled	% Navy/USMC Enrolled
DEWITT ACH-FT. BELVOIR	27,392	4,806	18%	876	18%
NHC QUANTICO	59,018	24,613	42%	12,588	51%
FAMILY HEALTH CENTER FAIRFAX	43,324	4,643	11%	3,873	83%
FAMILY HEALTH CENTER WOODBRIDGE	37,318	6,620	18%	5,899	89%
436th MED GRP-DOVER	27,261	2,079	8%	438	21%
WALTER REED AMC-WASHINGTON DC	16,433	2,185	13%	429	20%
779TH MED GRP-ANDREWS	25,055	4,738	19%	1,221	26%
NMHC BETHESDA	31,857	24,559	77%	16,445	67%
NHC PATUXENT RIVER	20,354	16,465	81%	8,438	51%
KIMBROUGH AMB CAR CEN-FT MEADE	54,469	7,412	14%	4,372	59%
NHC ANNAPOLIS	22,442	17,494	78%	4,256	24%
KIRK AHC-ABERDEEN PROVING GD	17,918	2,754	15%	579	21%
BARQUIST ARMY HEALTH CLINIC	26,865	6,150	23%	1,335	22%
DUNHAM AHC-CARLISLE BARRACKS	10,790	2,415	22%	1,541	64%
ANDREW RADER AHC-FT. MYER	7,585	2,232	29%	525	24%
579TH MED GRP-BOLLING	27,209	1,039	4%	622	60%
TOTAL	455,290	130,204	29%	63,437	49%

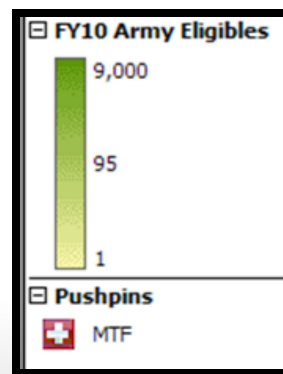


Source: DEERS
Oct 2010

FY10 Army Eligible Population for NCA PSAs

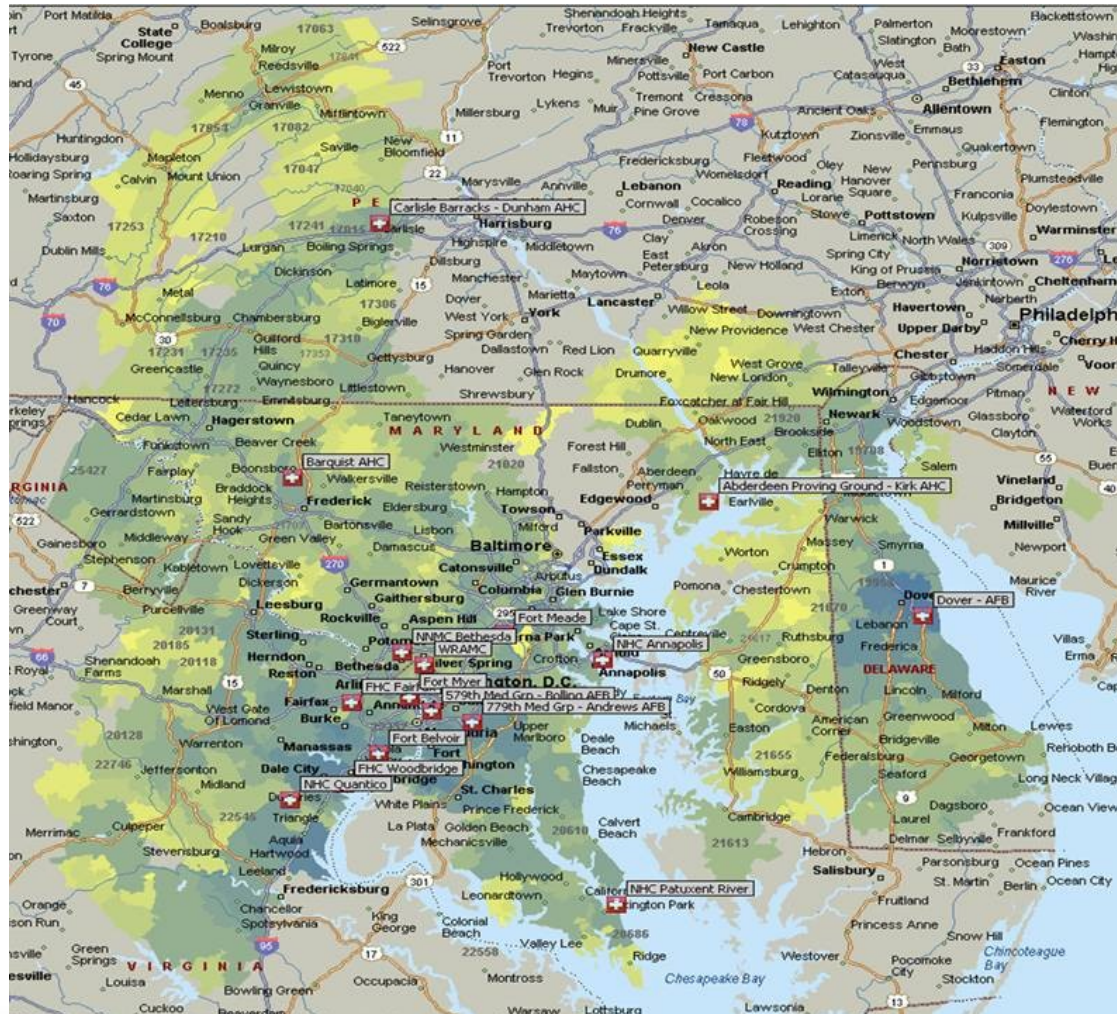


MTF	PSA Eligibles	Army Eligibles	% of PSA Eligibles	Army Enrolled	% Army Enrolled
DEWITT ACH-FT. BELVOIR	27,392	23,276	85%	20,906	90%
NHC QUANTICO	59,018	1,890	3%	655	35%
FAMILY HEALTH CENTER FAIRFAX	43,324	23,347	54%	6,713	29%
FAMILY HEALTH CENTER WOODBRIDGE	37,318	29,819	80%	12,484	42%
436th MED GRP-DOVER	27,261	3,855	14%	1,066	28%
WALTER REED AMC-WASHINGTON DC	16,433	15,285	93%	13,398	88%
779TH MED GRP-ANDREWS	25,055	4,120	16%	3,276	80%
NNMC BETHESDA	31,857	5,601	18%	2,241	40%
NHC PATUXENT RIVER	20,354	1,058	5%	235	22%
KIMBROUGH AMB CAR CEN-FT MEADE	54,469	30,567	56%	12,653	41%
NHC ANNAPOLIS	22,442	1,004	4%	692	69%
KIRK AHC-ABERDEEN PROVNG GD	17,918	12,607	70%	5,676	45%
BARQUIST ARMY HEALTH CLINIC	26,865	12,366	46%	3,679	30%
DUNHAM AHC-CARLISLE BARRACKS	10,790	6,918	64%	6,205	90%
ANDREW RADER AHC-FT. MYER	7,585	7,026	93%	6,357	90%
579TH MED GRP-BOLLING	27,209	1,078	4%	0	0%
TOTAL	455,230	179,817	39%	96,236	54%

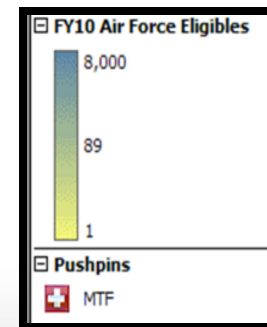




FY10 Air Force Eligible Population for NCA PSAs



MTF	PSA Eligibles	Air Force Eligibles	% of PSA Eligibles	Air Force Enrolled	% Air Force Enrolled
DEWITT ACH-FT. BELVOIR	27,392	5,659	21%	1,936	34%
NHC QUANTICO	59,018	10,634	18%	1,065	10%
FAMILY HEALTH CENTER FAIRFAX	43,324	14,060	32%	5,908	42%
FAMILY HEALTH CENTER WOODBRIDGE	37,318	6,601	18%	6,298	95%
436th MED GRP-DOVER	27,261	20,810	76%	11,208	54%
WALTER REED AMC-WASHINGTON DC	16,433	3,133	19%	61	2%
779TH MED GRP-ANDREWS	25,055	24,941	100%	19,245	77%
NNMC BETHESDA	31,857	4,781	15%	2,632	55%
NHC PATUXENT RIVER	20,354	2,078	10%	565	27%
KIMBROUGH AMB CAR CEN-FT MEADE	54,469	13,001	24%	5,317	41%
NHC ANNAPOLIS	22,442	2,559	11%	658	26%
KIRK AHC-ABERDEEN PRVNG GD	17,918	2,191	12%	606	28%
BARQUIST ARMY HEALTH CLINIC	26,865	6,897	26%	776	11%
DUNHAM AHC-CARLISLE BARRACKS	10,790	2,159	20%	1,756	81%
ANDREW RADER AHC-FT. MYER	7,585	1,753	23%	1,733	99%
579TH MED GRP-BOLLING	27,209	27,105	100%	4,774	18%
TOTAL	455,230	148,362	33%	64,538	44%



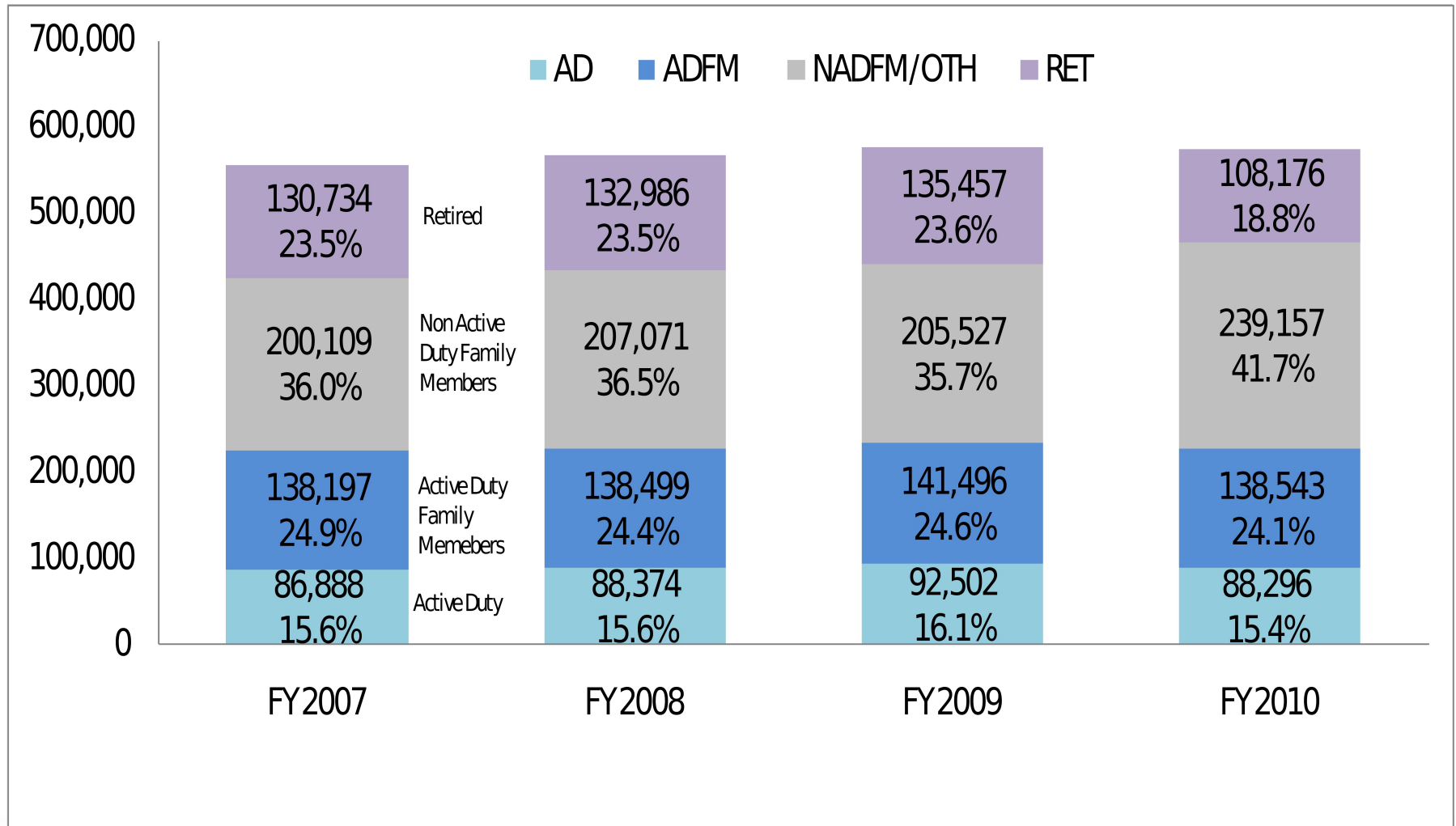
Eligible NCA Population



98%
ADSM
enrolled to
MTFs

Beneficiary Category

Eligible NCA Population





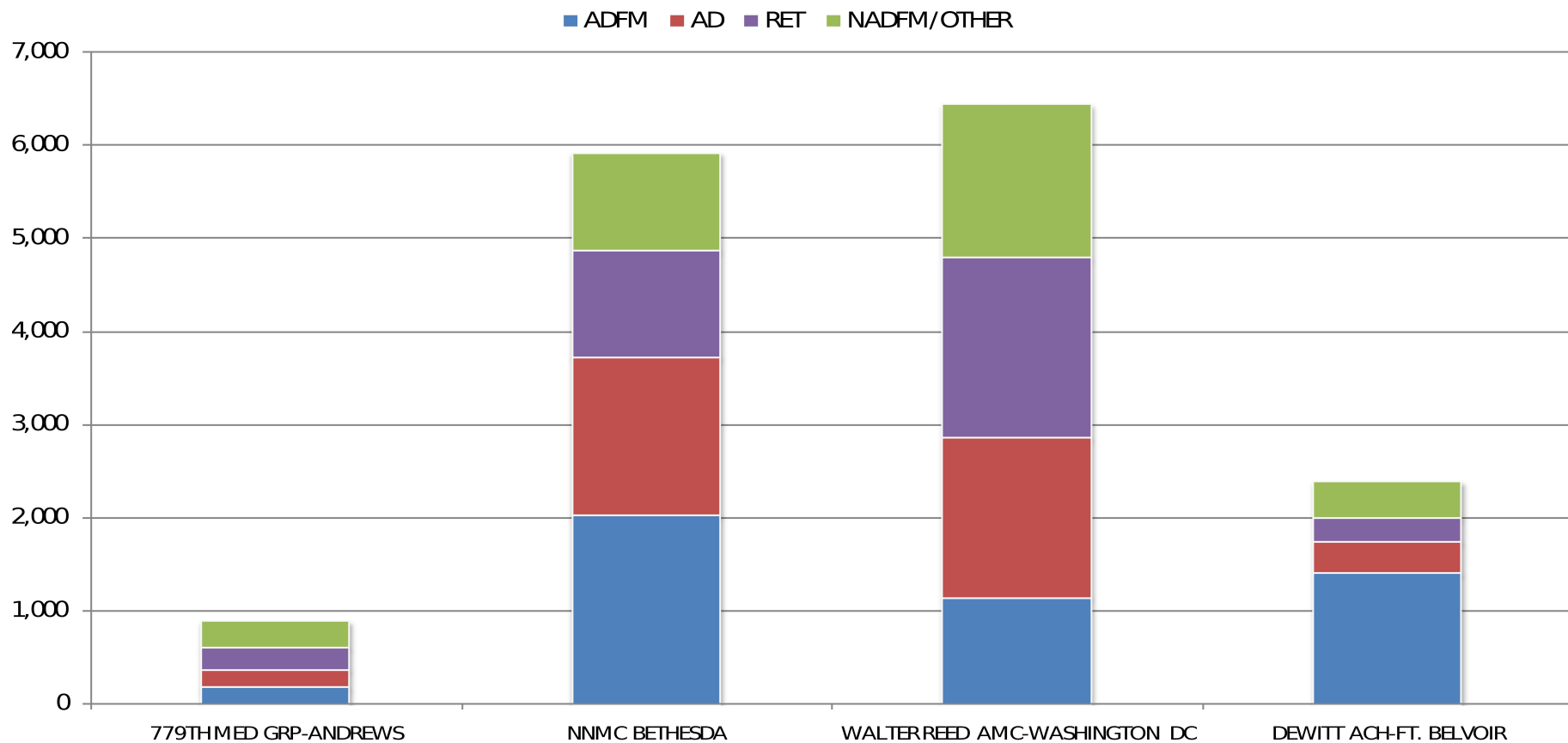
Mr. Pradeep G. Gidwani, SES, Director TRICARE Region,
North

TRO-N METHODOLOGY

DOD RECAPTURE OF WORKLOAD

MTF Inpatient

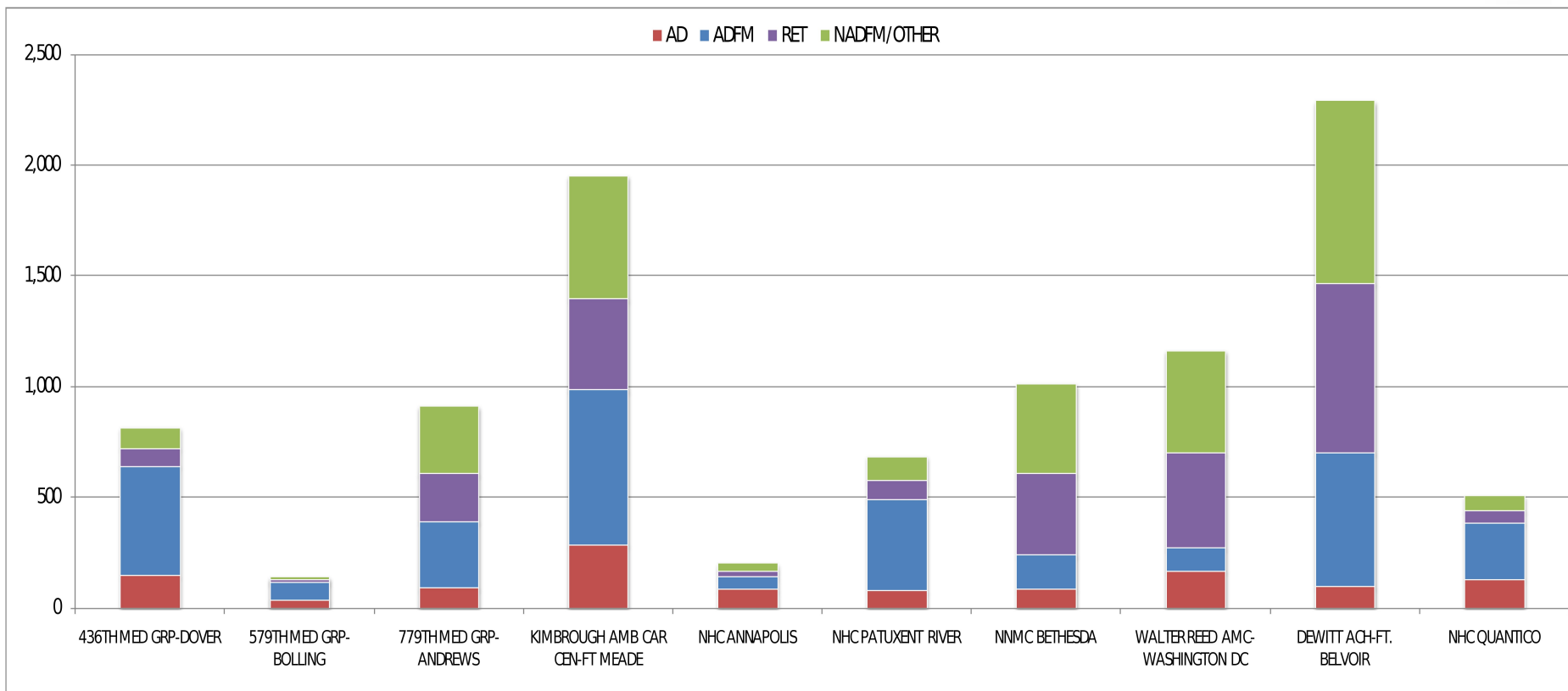
Admissions by Parent MTF and Beneficiary Category FY 10



	ADFM	AD	RET	NADFM/OTHER	TOTAL
779TH MED GRP-ANDREWS	181	192	239	285	897
NNMC BETHESDA	2,033	1,696	1,151	1,045	5,925
WALTER REED AMC-WASHINGTON DC	1,147	1,716	1,932	1,649	6,444
DEWITT ACH-FT. BELVOIR	1,406	341	256	392	2,395
TOTAL	4,767	3,945	3,578	3,371	15,661

Network Inpatient

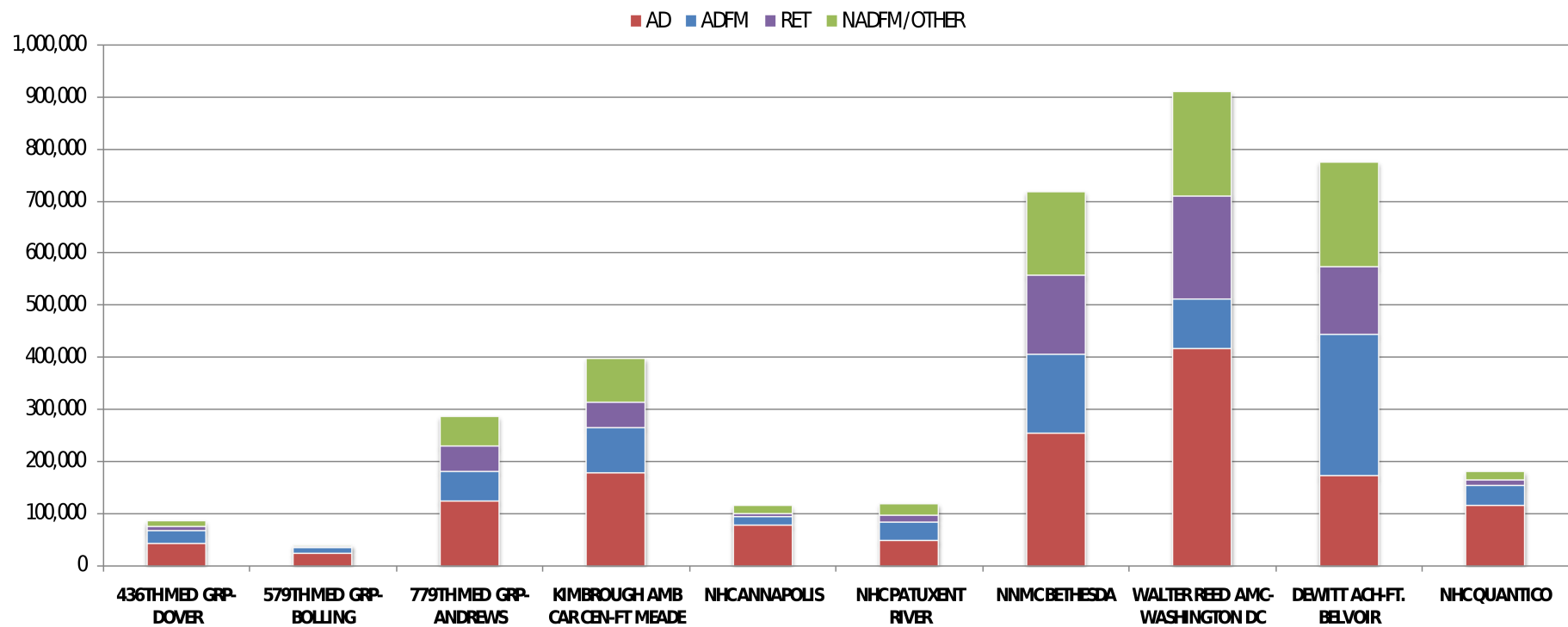
Referrals by Parent MTF and Beneficiary Category FY 10



	ADFM	AD	RET	NADFM/OTHER	TOTAL
436TH MED GRP-DOVER	496	145	81	93	815
579TH MED GRP-BOLLING	80	34	13	12	139
779TH MED GRP-ANDREWS	303	89	214	306	912
KIMBROUGH AMB CAR CEN-FT MEADE	702	284	409	557	1,952
NHC ANNAPOLIS	59	83	26	33	201
NHC PATUXENT RIVER	411	78	87	109	685
NNMCM BETHESDA	153	85	370	405	1,013
WALTER REED AMC-WASHINGTON DC	104	168	429	461	1,162
DEWITT ACH-FT. BELVOIR	605	97	765	822	2,289
NHC QUANTICO	255	131	51	69	506
TOTAL	3,168	1,194	2,445	2,867	9,674

MTF Outpatient

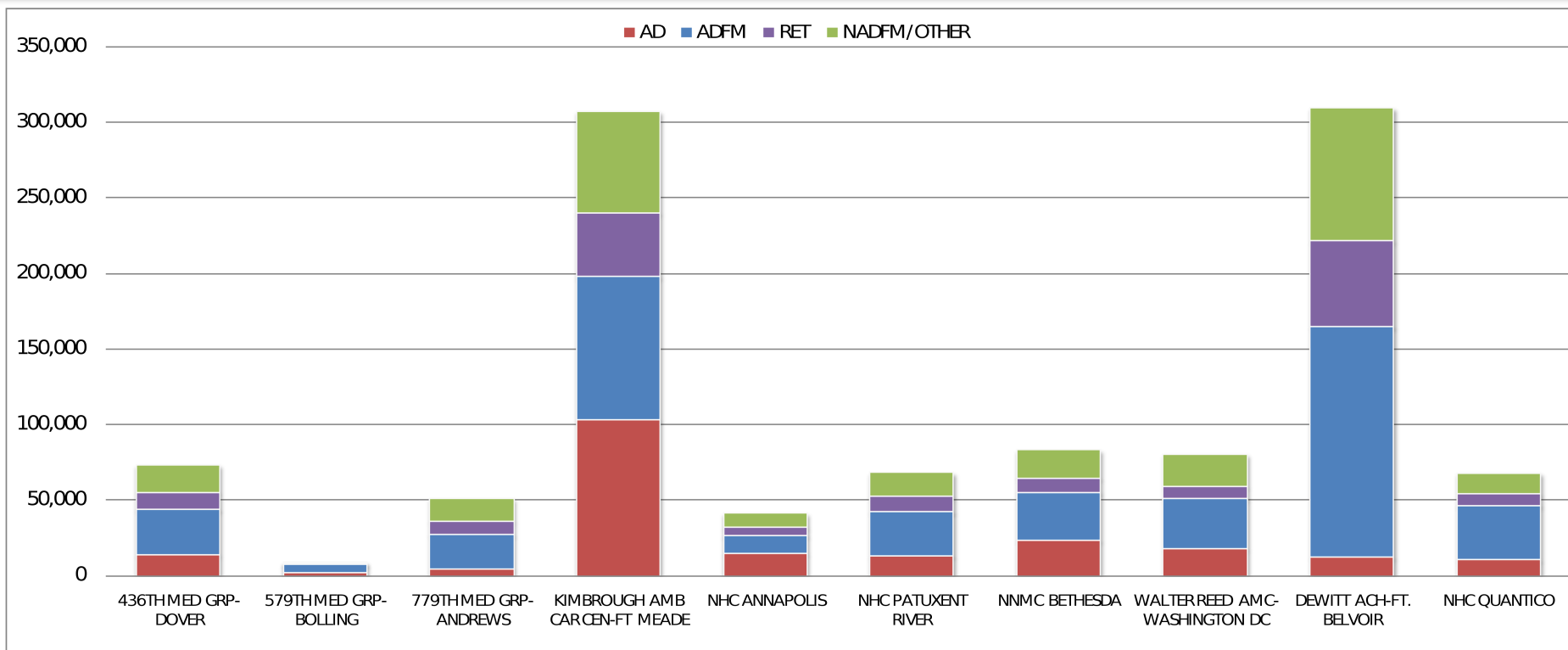
Workload by Parent MTF and Beneficiary Category FY 10



	ADFM	AD	RET	NADFM/ OTHER	TOTAL
436TH MED GRP-DOVER	24,482	40,186	7,917	12,514	85,099
579TH MED GRP-BOLLING	11,302	22,008	2,394	1,915	37,619
779TH MED GRP-ANDREWS	56,797	122,461	47,914	58,539	285,711
KIMBROUGH AMB CAR CEN-FT MEADE	87,023	177,650	47,318	85,509	397,500
NHC ANNAPOLIS	15,731	76,166	6,827	15,765	114,489
NHC PATUXENT RIVER	35,868	46,246	12,680	23,179	117,973
NNMC BETHESDA	153,942	251,522	150,972	161,265	717,701
WALTER REED AMC-WASHINGTON DC	95,745	415,431	197,751	199,855	908,782
DEWITT ACH-FT. BELVOIR	272,055	169,925	131,667	200,829	774,476
NHC QUANTICO	40,378	113,029	9,240	17,764	180,411
TOTAL	793,323	1,434,624	614,680	777,134	3,619,761

Network Outpatient

Workload by Parent MTF and Beneficiary Category FY 10

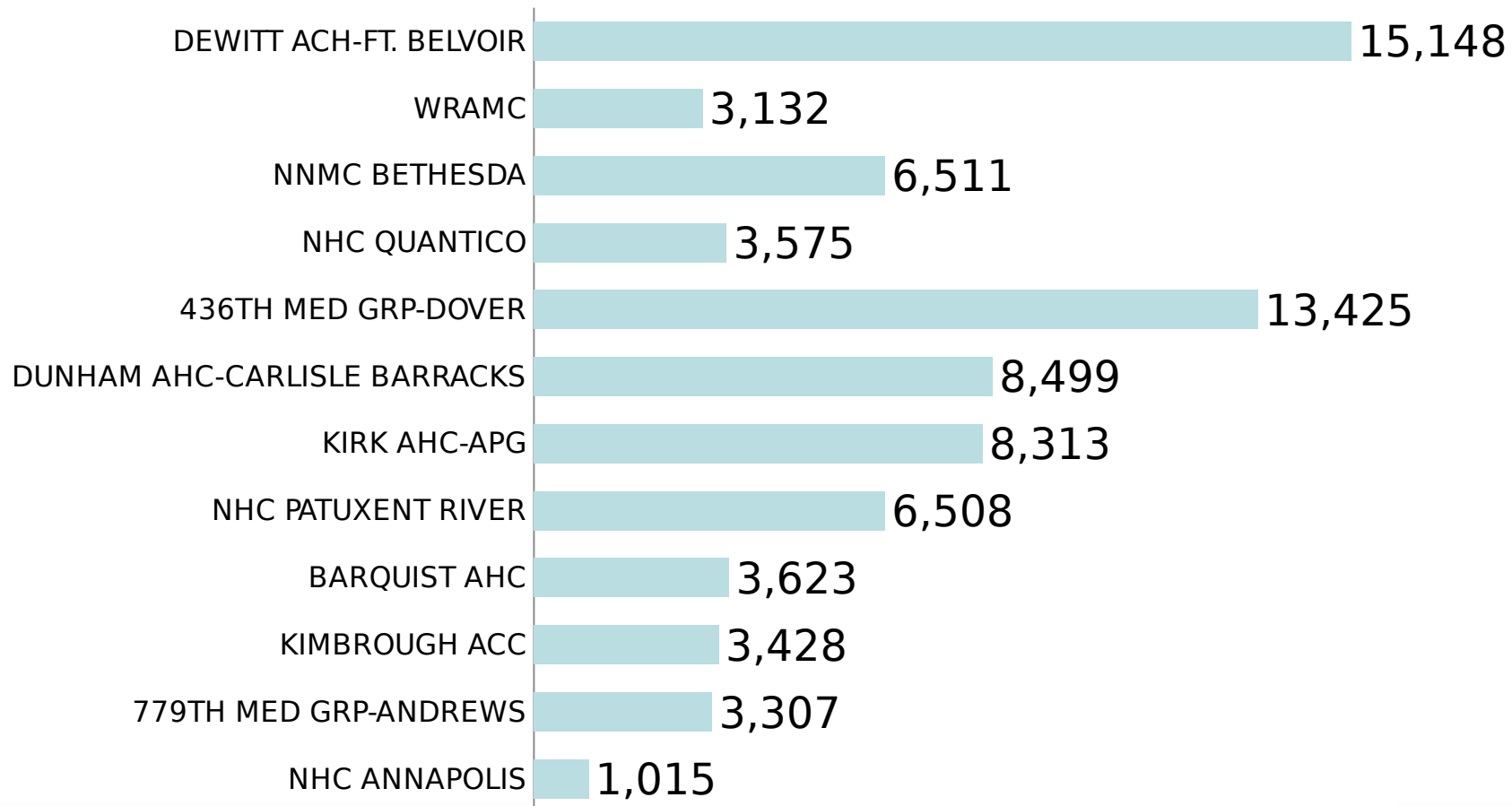


	ADFM	AD	RET	NADFM/ OTHER	TOTAL
436TH MED GRP-DOVER	29,743	13,818	11,574	17,929	73,064
579TH MED GRP-BOLLING	5,213	1,785	843	764	8,605
779TH MED GRP-ANDREWS	22,583	4,243	9,341	14,835	51,002
KIMBROUGH AMB CAR CEN-FT MEADE	94,583	102,974	42,219	67,051	306,827
NHC ANNAPOLIS	11,828	14,675	5,474	9,170	41,147
NHC PATUXENT RIVER	29,000	12,927	10,103	15,813	67,843
NNMC BETHESDA	31,720	23,202	9,546	18,410	82,878
WALTER REED AMC-WASHINGTON DC	32,893	17,838	8,109	21,284	80,124
DEWITT ACH-FT. BELVOIR	152,696	11,826	56,690	88,111	309,323
NHC QUANTICO	36,142	10,302	7,484	13,742	67,670
TOTAL	446,401	213,590	161,383	267,109	1,088,483

Referrals from MIF to Network



FY 2010



Top 15 NCA Inpatient MDCs FY 2010



Diseases and Disorders of the Musculoskeletal System and Connective Tissue	\$5,489,006	15.8%
Newborns and Other Neonates with Conditions Originating in Perinatal Period	\$3,711,441	10.7%
Diseases and Disorders of the Circulatory System	\$3,691,129	10.7%
Pregnancy, Childbirth, and the Puerperium	\$3,561,139	10.3%
Mental Diseases and Disorders	\$3,210,814	9.3%
Diseases and Disorders of the Nervous System	\$2,708,940	7.8%
Diseases and Disorders of the Digestive System	\$2,022,856	5.8%
Factors Influencing Health Status and Other Contacts with Health Services	\$1,849,127	5.3%
Diseases and Disorders of the Respiratory System	\$1,758,846	5.1%
Diseases and Disorders of the Hepatobiliary System and Pancreas	\$907,608	2.6%
Infectious and Parasitic Diseases, Systemic or Unspecified Sites	\$751,609	2.2%
Endocrine, Nutritional and Metabolic Diseases and Disorders	\$749,778	2.2%
Diseases and Disorders of the Blood, Blood Forming Organs, Immunological Disorders	\$725,361	2.1%
Myeloproliferative Diseases and Disorders, Poorly Differentiated Neoplasm	\$676,405	2.0%
Alcohol/Drug Use and Alcohol/Drug Induced Organic Mental Disorders	\$633,360	1.8%
Totals	\$32,447,420	93.7%

Data Source: M2, FY 2010

Top 15 NCA Outpatient MDCs FY 2010



Factors Influencing Health Status and Other Contacts with Health Services	\$25,895,301	26.9%
Diseases and Disorders of the Musculoskeletal System and Connective Tissue	\$16,222,496	16.8%
Diseases and Disorders of the Ear, Nose, Mouth, and Throat	\$8,210,173	8.5%
Diseases and Disorders of the Nervous System	\$6,429,140	6.7%
Mental Diseases and Disorders	\$5,224,147	5.4%
Diseases and Disorders of the Digestive System	\$5,177,988	5.4%
Diseases and Disorders of the Circulatory System	\$5,008,136	5.2%
Diseases and Disorders of the Skin, Subcutaneous Tissue and Breast	\$4,769,885	4.9%
Diseases and Disorders of the Respiratory System	\$2,850,239	3.0%
Endocrine, Nutritional and Metabolic Diseases and Disorders	\$2,509,547	2.6%
Pregnancy, Childbirth, and the Puerperium	\$1,897,067	2.0%
Diseases and Disorders of the Kidney and Urinary Tract	\$1,807,692	1.9%
Diseases and Disorders of the Female Reproductive System	\$1,753,104	1.8%
Diseases and Disorders of the Eye	\$1,602,519	1.7%
Injuries, Poisonings and Toxic Effects of Drugs	\$1,472,997	1.5%
Totals	\$90,830,432	94.2%

Top 15 NCA Outpatient Providers



Paid Dollars FY 2010

NCA Network Capacity

Network Adequacy Report (NAR), August 2010



Provider Specialty	Available Non Network Providers	Current Providers Contracted	Prior Providers Contracted from last NAR - May 2010	Number Over/ Under Target	Current/ Prior Change from Last NAR - May 2010
PRIMARY CARE	563	957	946	394	11
ALLERGY	29	62	62	33	0
CARDIOVASCULAR DISEASE	144	369	370	225	(1)
DERMATOLOGY	53	63	61	10	2
ENT	27	65	55	38	10
GASTROENTEROLOGY	85	166	168	81	(2)
HEMATOLOGY/ONCOLOGY	37	208	207	171	1
NEPHROLOGY	49	82	81	33	1
NEUROLOGY	41	129	126	88	3
OB/GYN	196	259	259	63	0
OPHTHALMOLOGY	101	222	218	121	4
OTHER MEDICAL/SURGICAL	328	2,158	2,115	1,830	43
PHYSICAL MEDICINE & REHABILITATION	37	92	92	55	0
PULMONARY DISEASE	32	96	96	64	0
SURGERY, GENERAL	125	211	211	86	0
SURGERY, ORTHOPEDIC	89	201	201	112	0
UROLOGY	56	39	39	(17)	0
PSYCHIATRY	59	131	128	72	3
OTHER BEHAVIORAL HEALTH	428	826	820	398	6
Total Professional	2,479	6,336	6,255	3,857	81
HOSPITAL	38	38	32	0	6
MENTAL HEALTH FACILITIES/UNITS	10	10	10	0	0
Total Institutional Facilities	48	48	42	0	6

- ☐ Managed Care Support activities undertaken for greater access:
 - ☐ Continue contract discussions with UROLOGY and BEHAVIOR HEALTH providers.
 - ☐ Continue monitoring of network access and availability.

Recommendations



- Modeling for single or multiple facilities
 - Jointly analyze:
 - DoD's NCA institutional capacities
 - Elasticity of beneficiary demand (Access to Care, BRAC impact, etc)
 - Leverage network capacity to augment Support of Total Force
 - Recapture workload
 - Effect of reliance on civilian hospitals (Johns Hopkins, Howard County GH, etc)
 - Address limitations collectively (drive time, ER utilization, un-appointed referrals, no-shows)
 - Political economics
 - Adequacy of Reimbursement
 - Enhanced joint referral and authorization system
 - DoD & VA Cooperative care from Baltimore to Richmond



CAPT Steve Keener, Chief of Staff, TRO-N

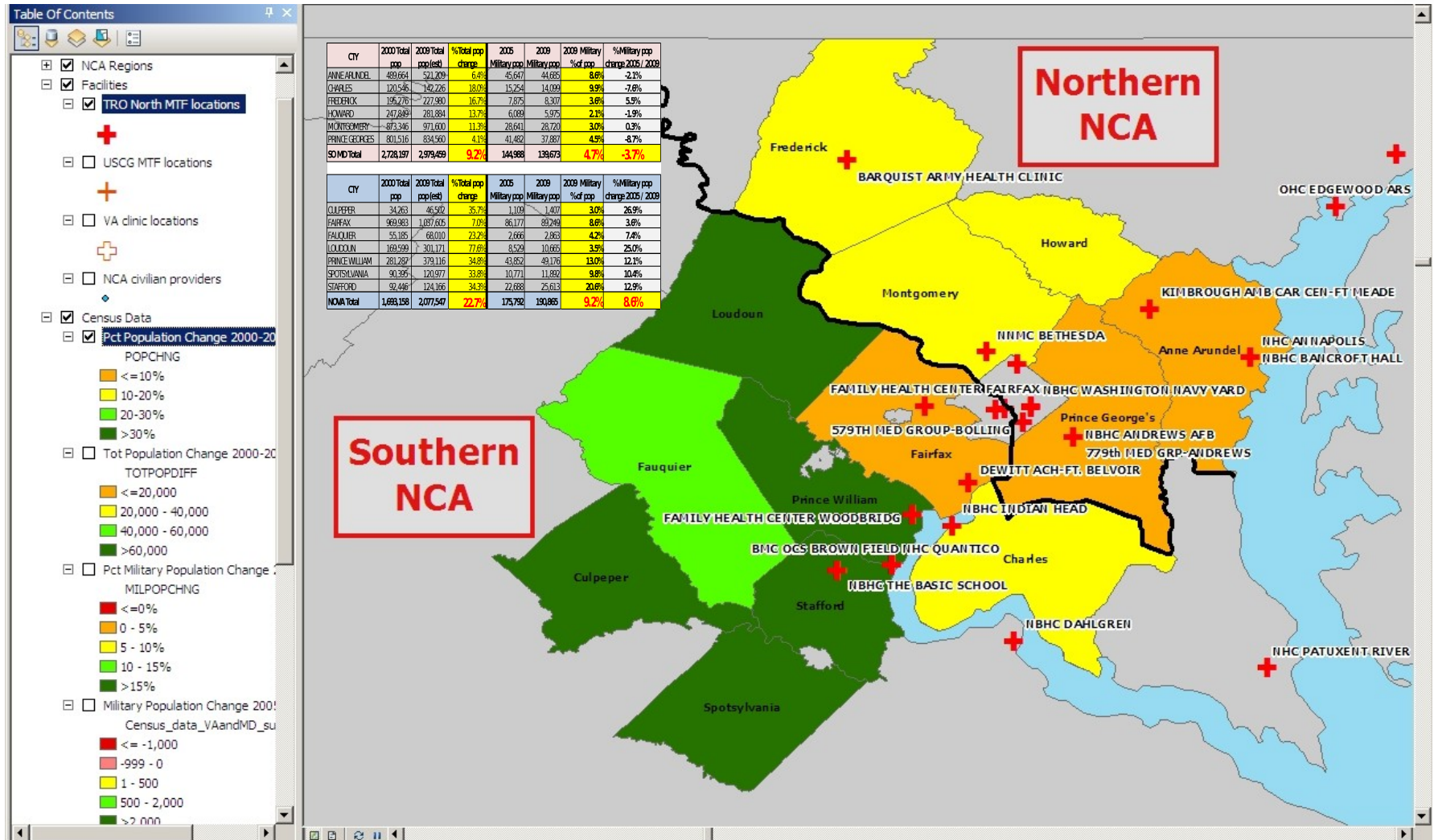
TRO-N METHODOLOGY

IMPROVEMENTS TO THE METHOD



MARKET ANALYSIS

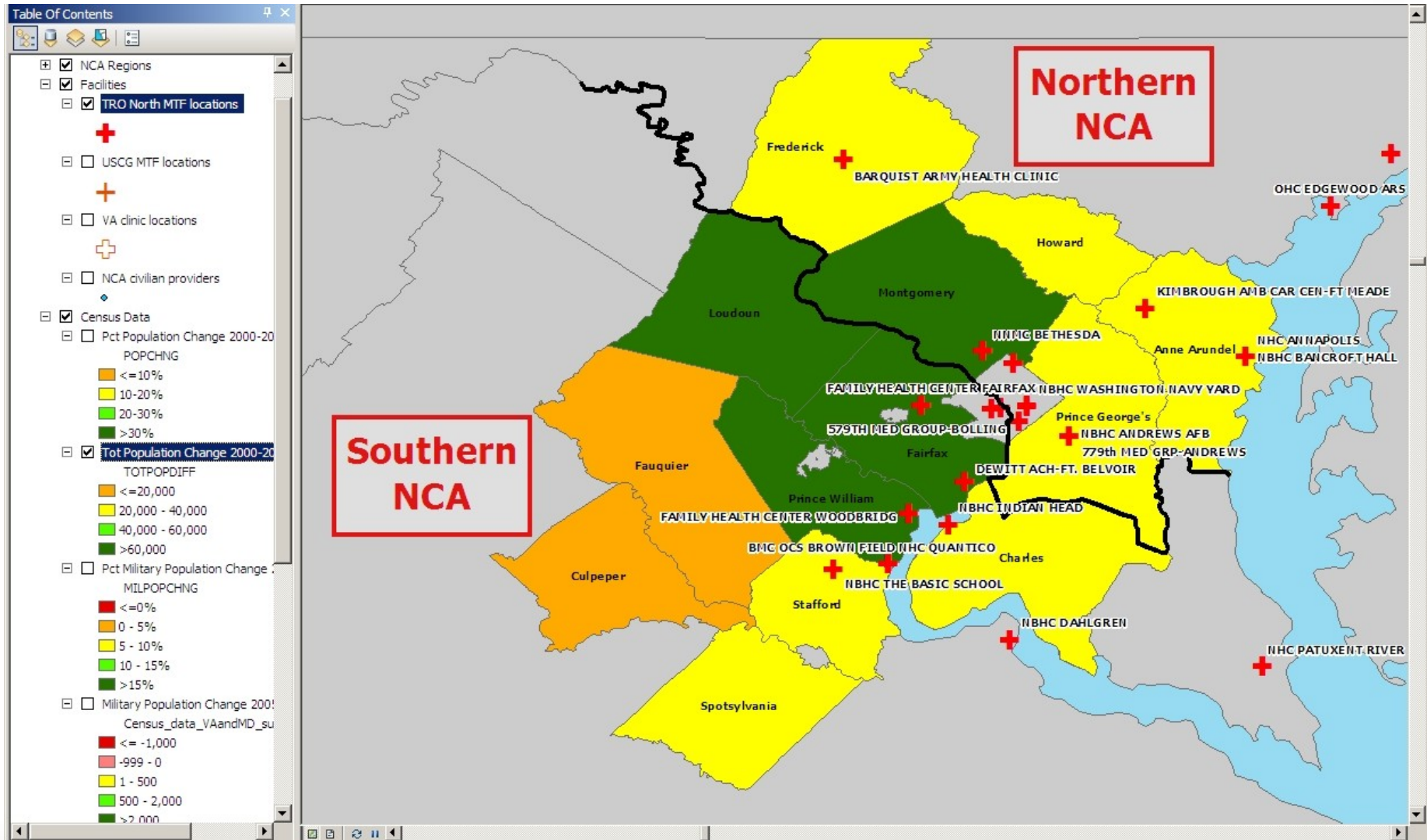
MARYLAND & VIRGINIA POPULATION TREND 2000-2009





MARKET ANALYSIS

MARYLAND & VIRGINIA POPULATION TREND 2000-2009

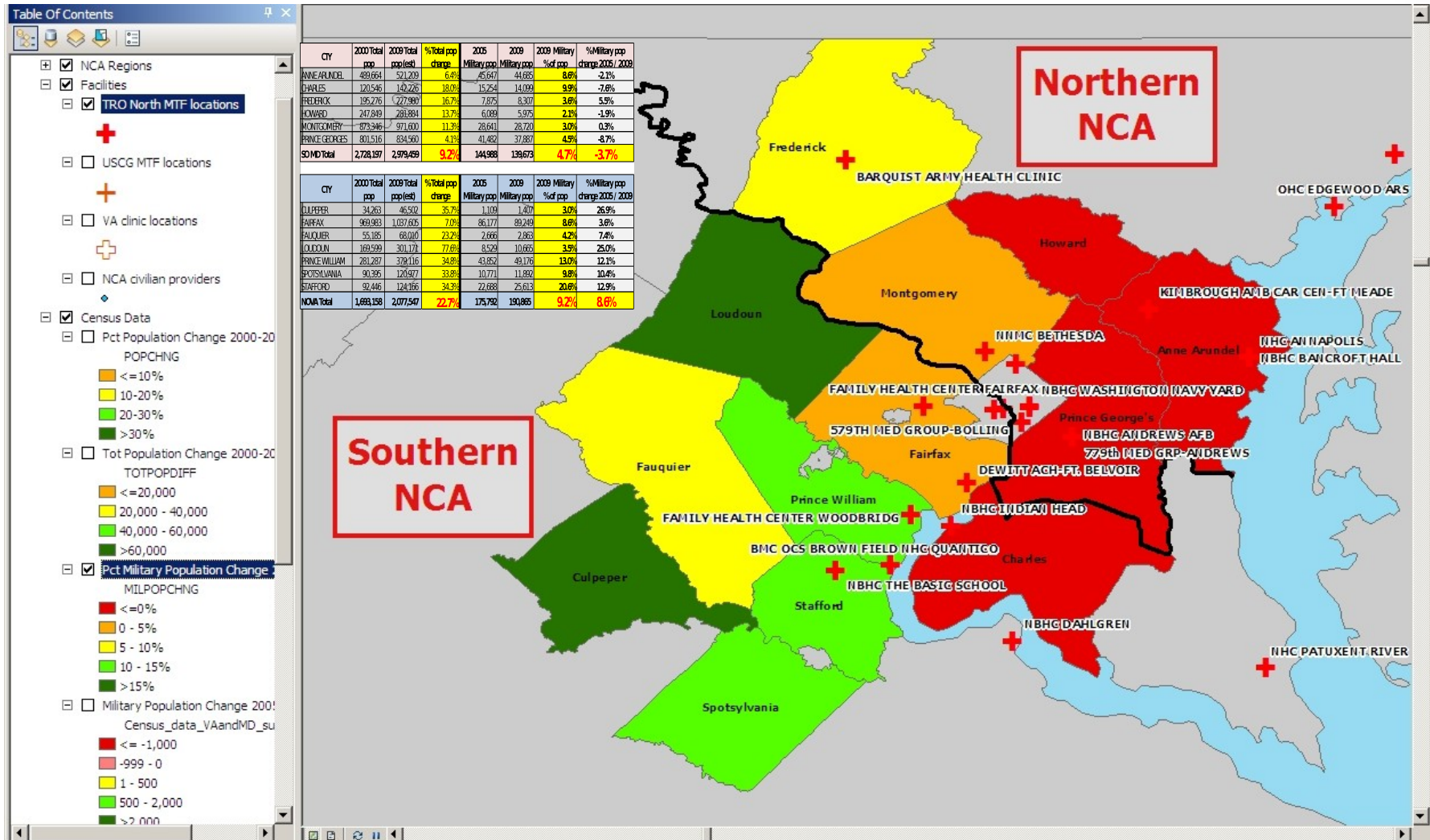




MARKET ANALYSIS

MARYLAND & VIRGINIA MILITARY POPULATION

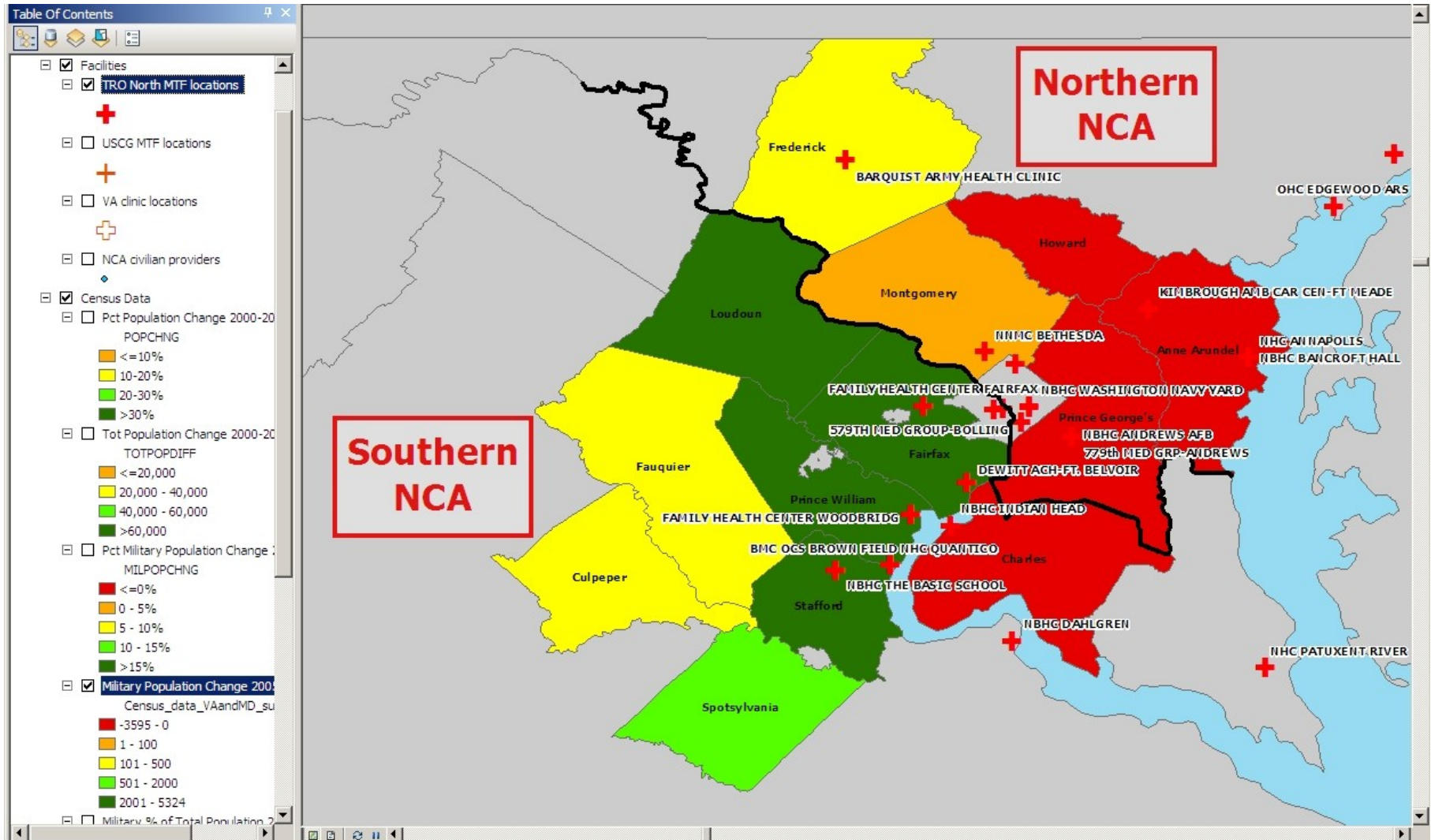
TREND 2005-2009





MARKET ANALYSIS

MARYLAND & VIRGINIA MILITARY POPULATION TREND 2005-2009



NCA Network Capacity

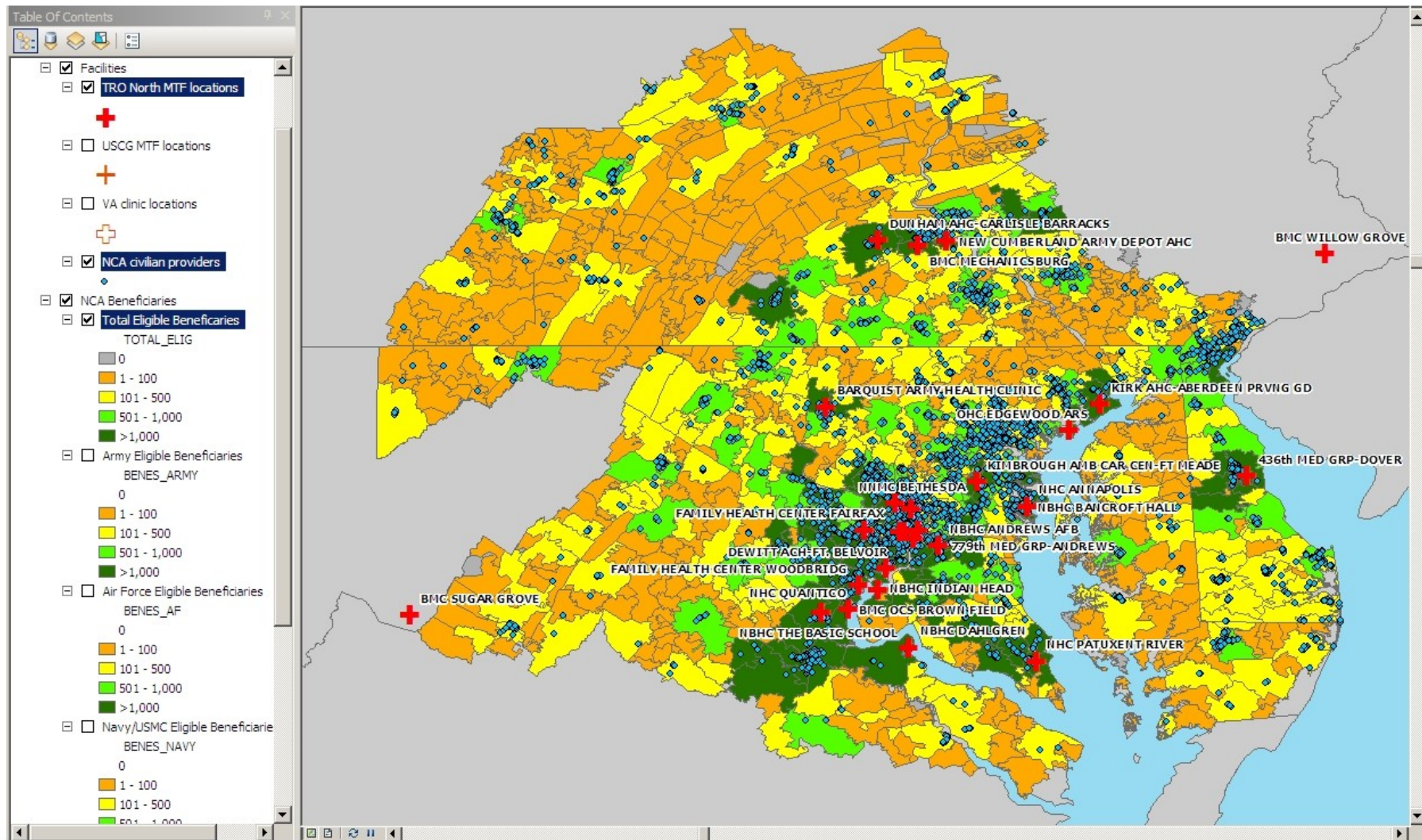
Network Adequacy Report (NAR), August 2010



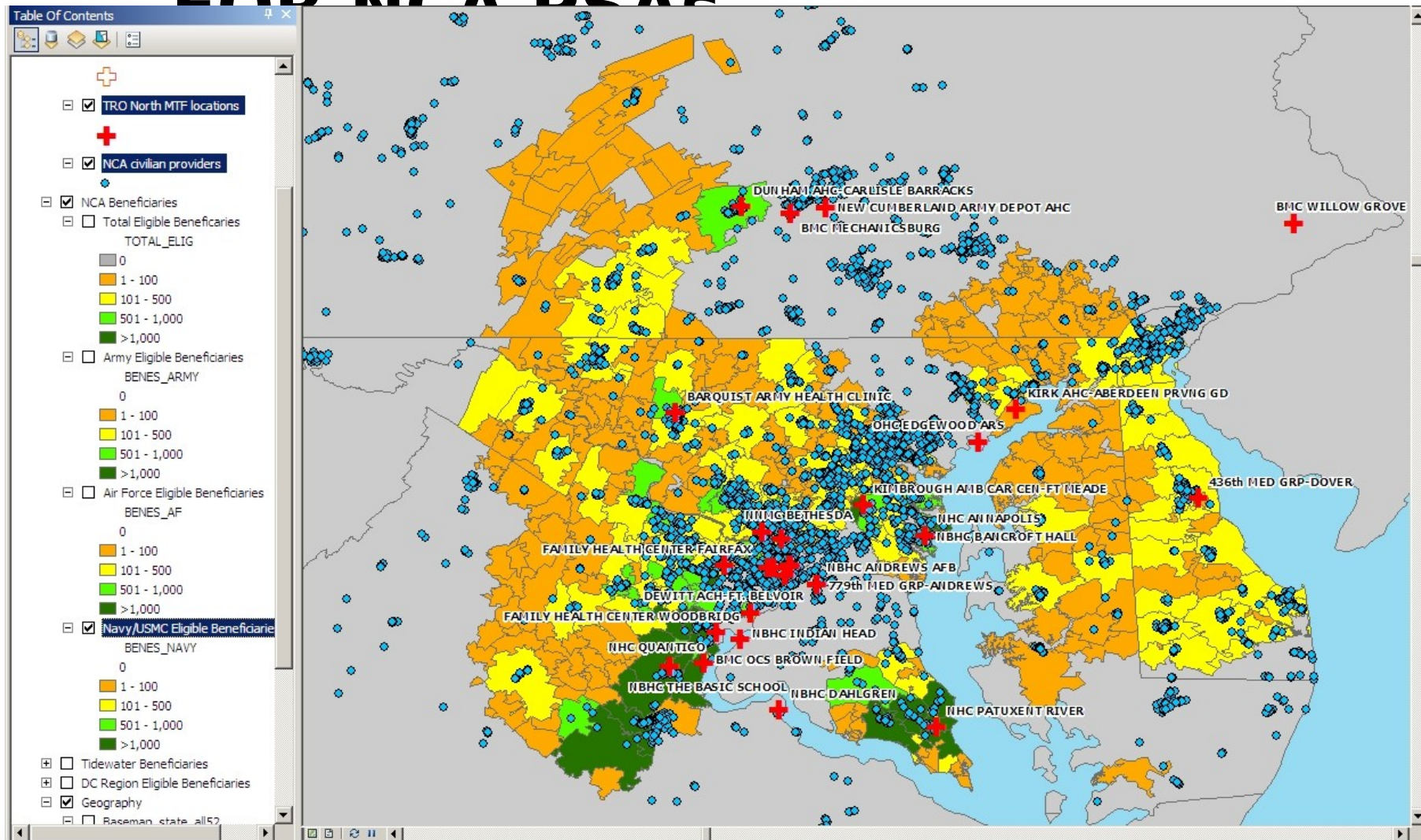
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NEPHROLOGY	49	82	81	33	1
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PULMONARY DISEASE	32	96	96	64	0
SURGERY, GENERAL	125	211	211	86	0
SURGERY, ORTHOPEDIC	89	201	201	112	0
UROLOGY	56	39	39	(17)	0
PSYCHIATRY	59	131	128	72	3
OTHER BEHAVIORAL HEALTH	428	826	820	398	6
Total Professional	2,479	6,336	6,255	3,857	81
HOSPITAL	38	38	32	0	6
MENTAL HEALTH FACILITIES/UNITS	10	10	10	0	0
Total Institutional Facilities	48	48	42	0	6

- ☐ Managed Care Support activities undertaken for greater access:
 - ☐ Continue contract discussions with UROLOGY and BEHAVIOR HEALTH providers.
 - ☐ Continue monitoring of network access and availability.

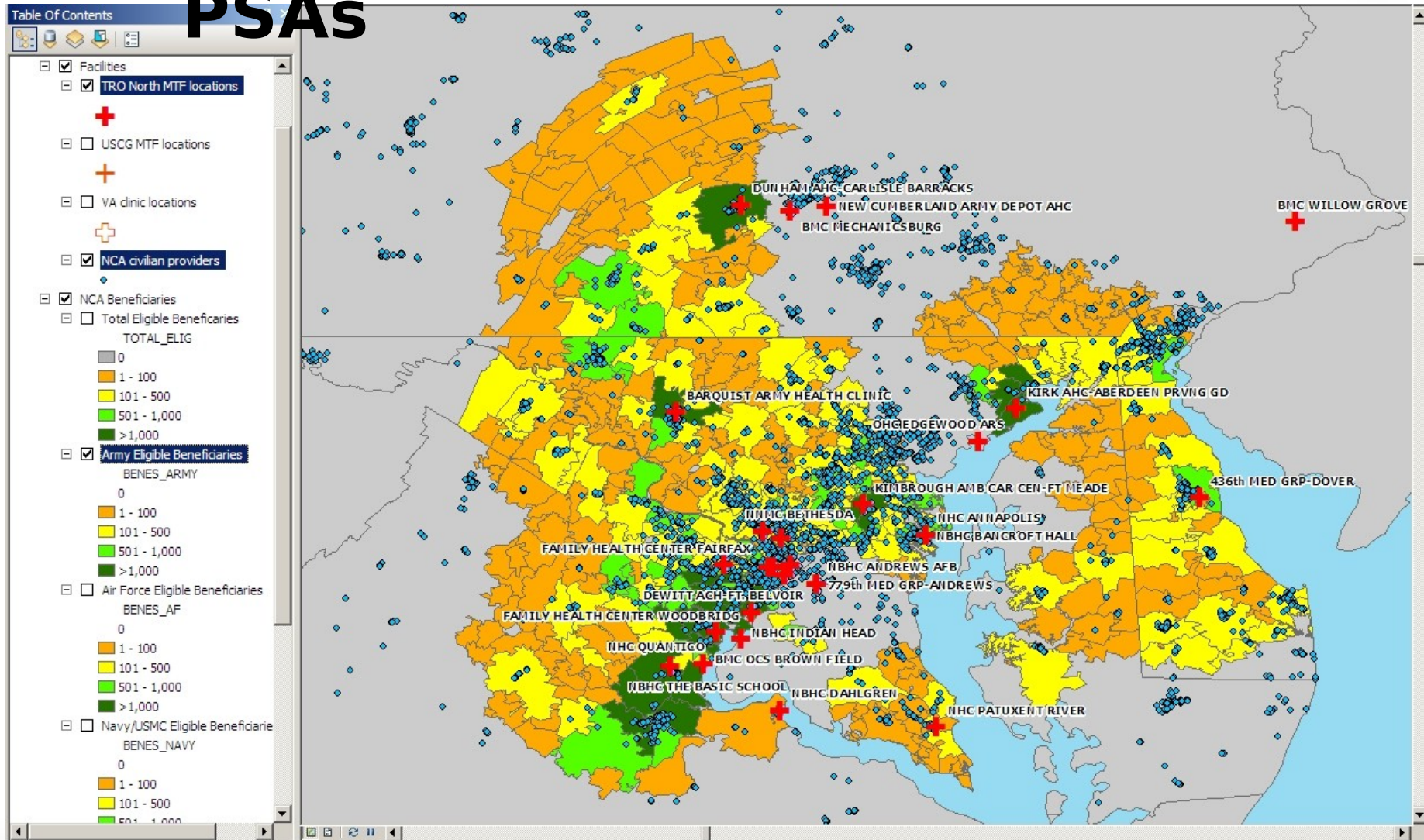
NCA FY10 TOTAL ELIGIBLE POPULATION



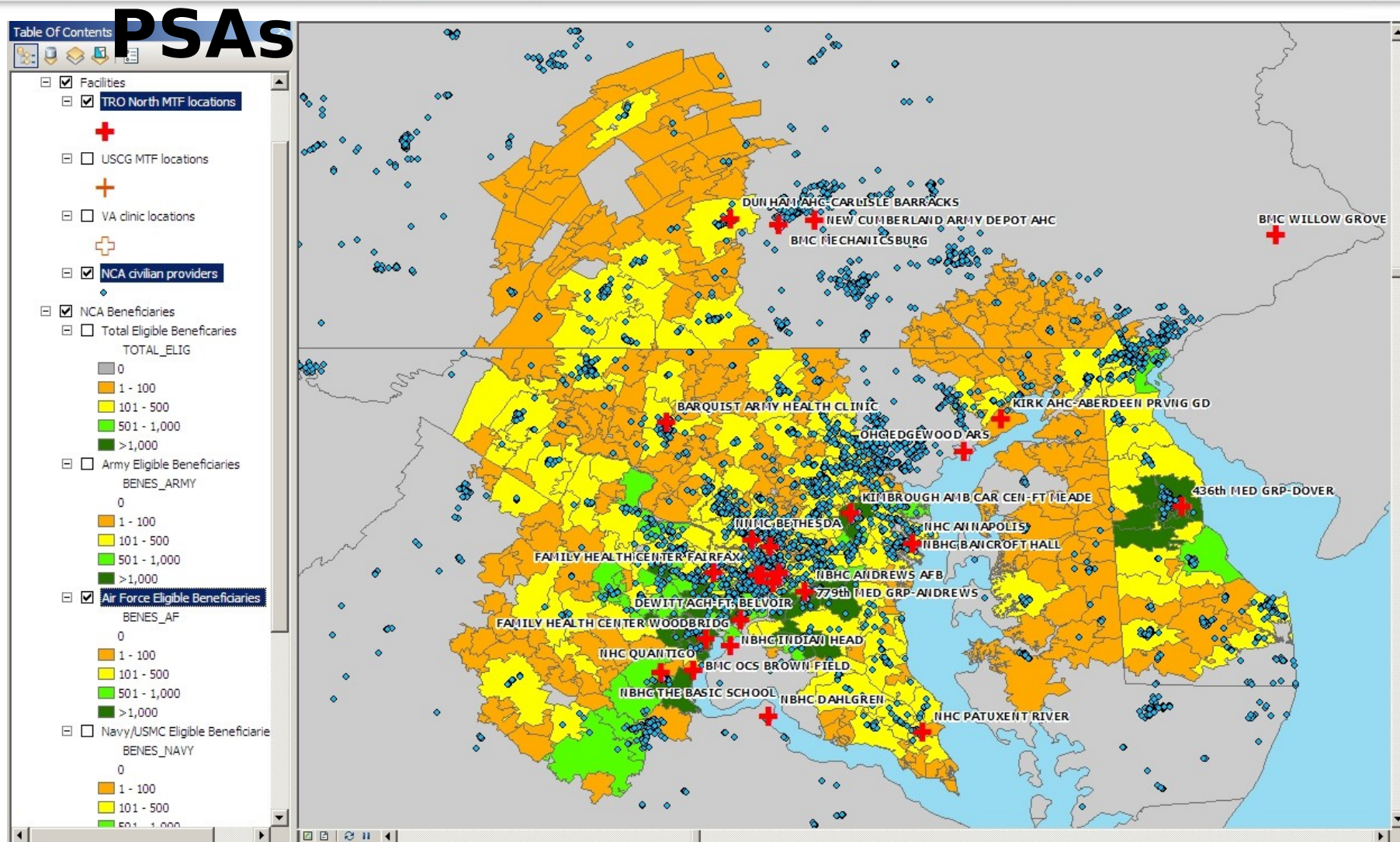
FY10 NAVY/USMC ELIGIBLE POPULATION FOR NCA PSAs



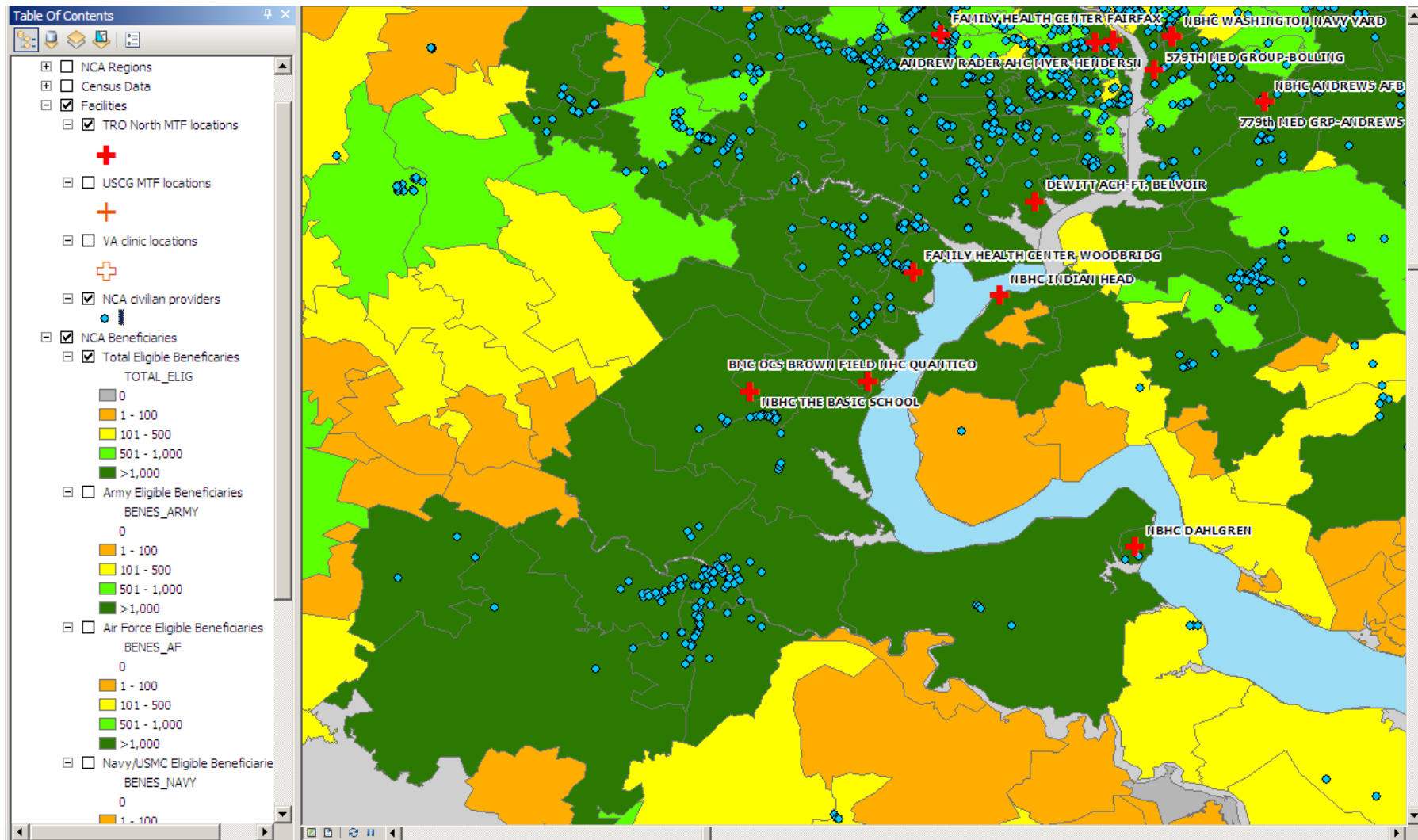
FY10 **ARMY** ELIGIBLE POPULATION FOR NCA PSAs



FY10 AIR FORCE ELIGIBLE POPULATION FOR NCA



NCA FY10 TOTAL ELIGIBLE POPULATION - zoom



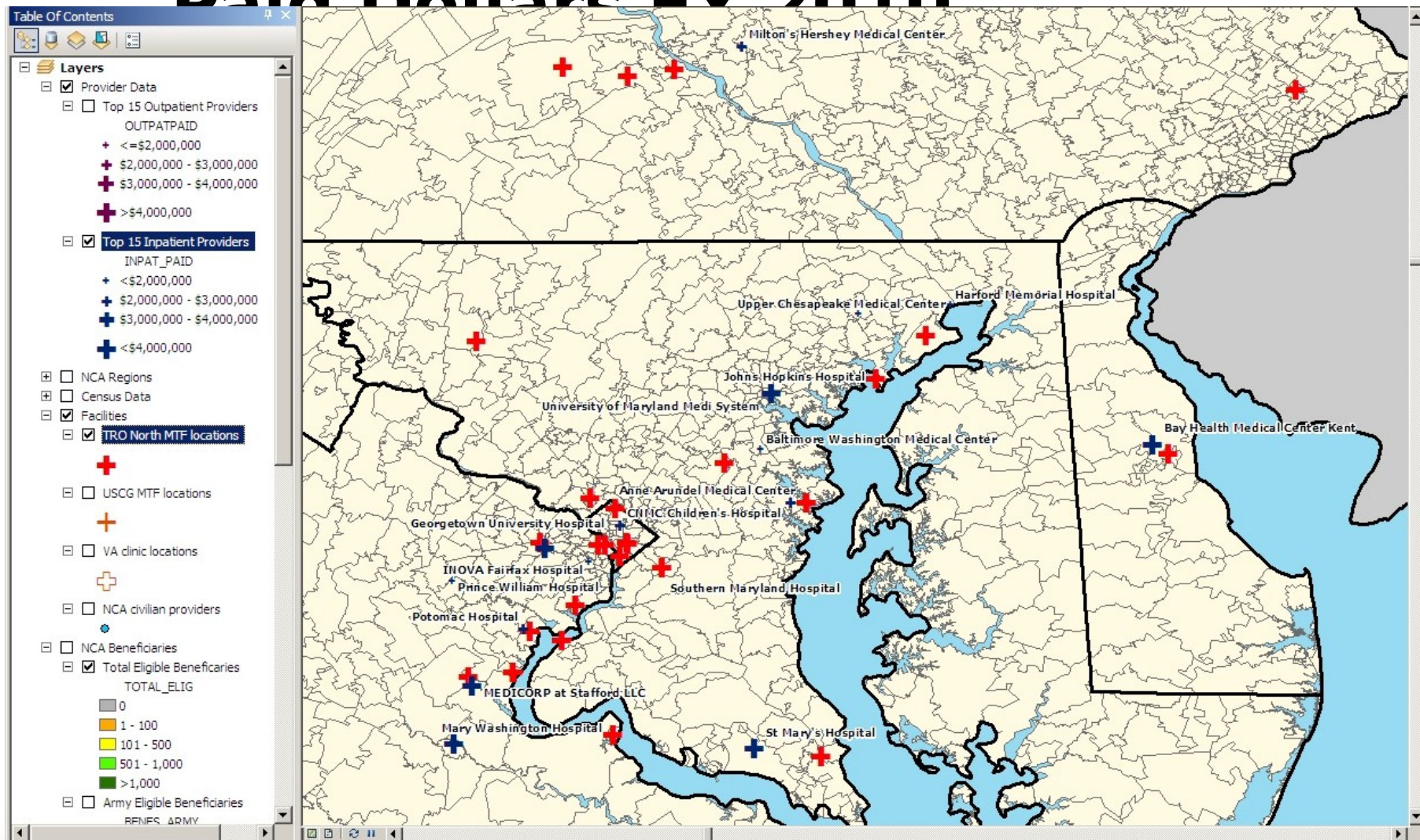
Top 15 NCA Inpatient Providers



Paid Dollars FY 2010

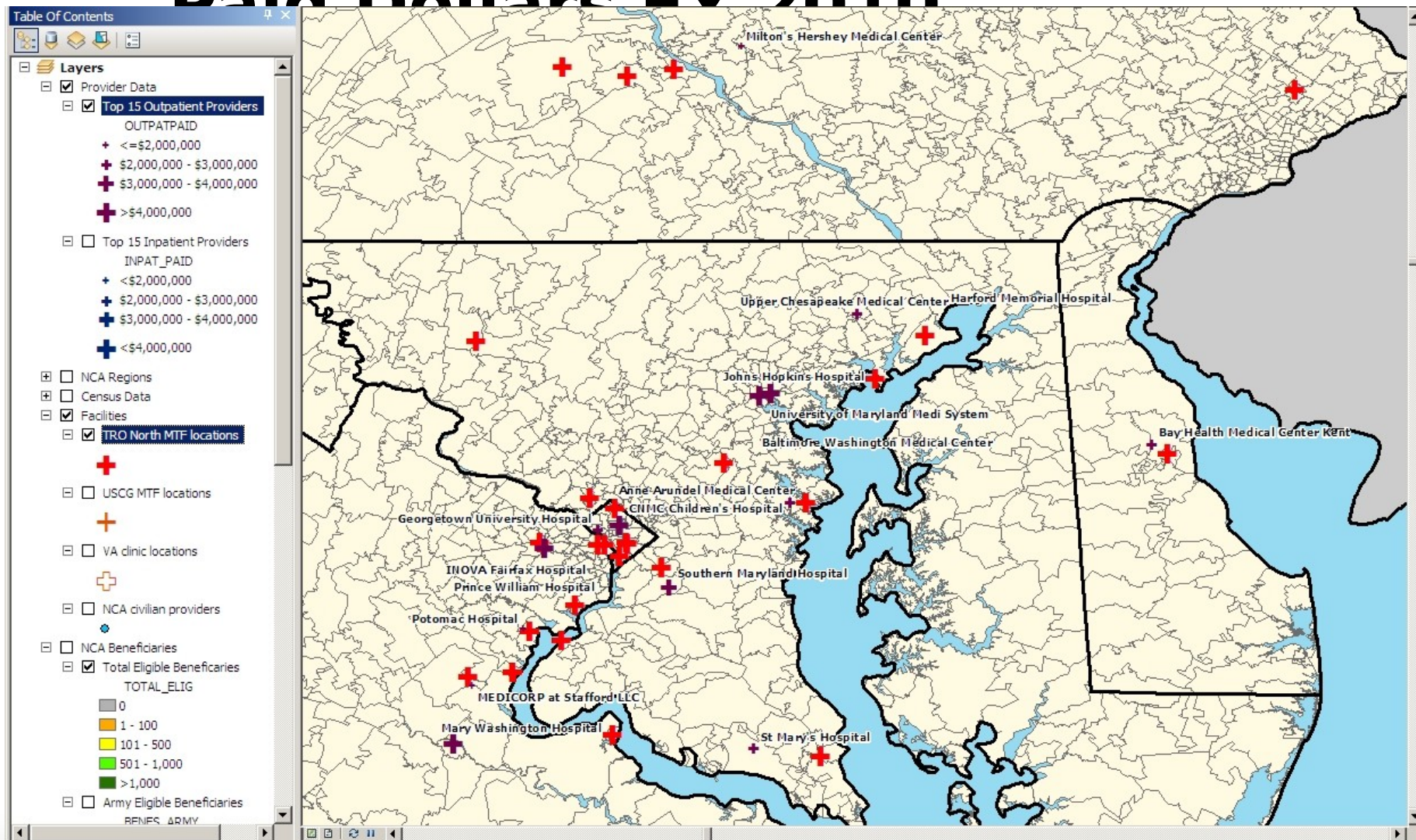
Top 15 NCA Inpatient Providers

Paid Dollars FY 2010

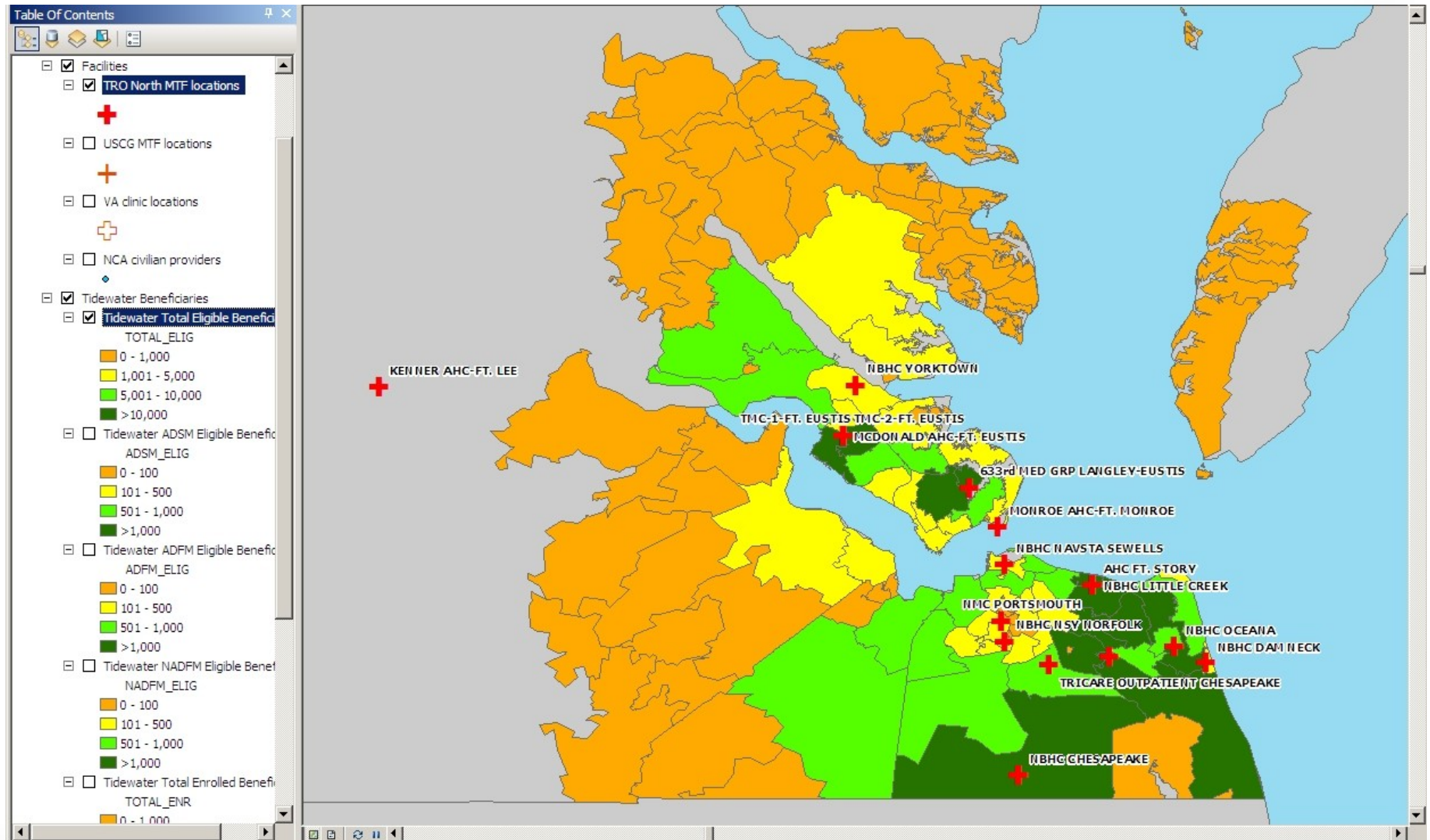


Top 15 NCA Outpatient Providers

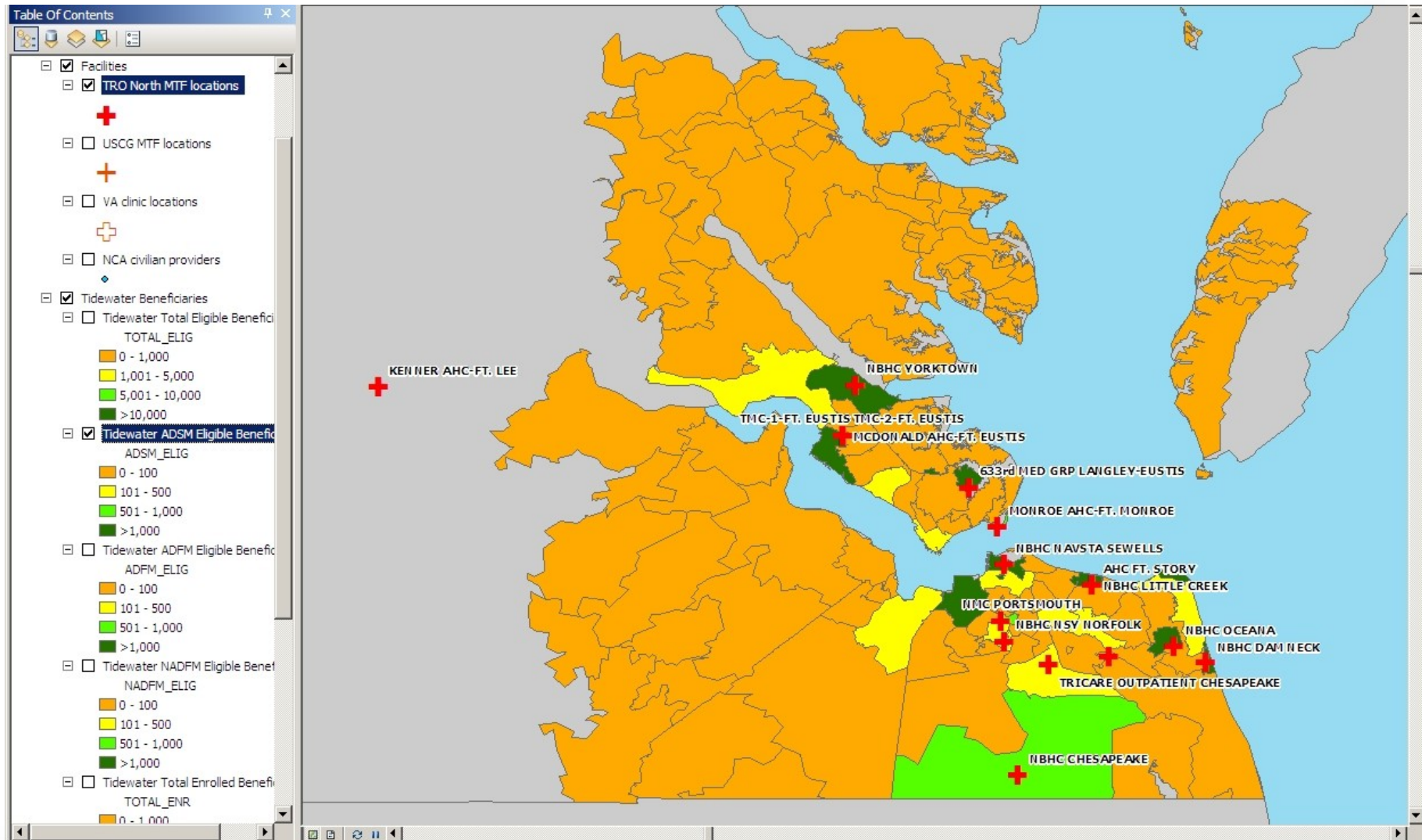
Paid Dollars FY 2010



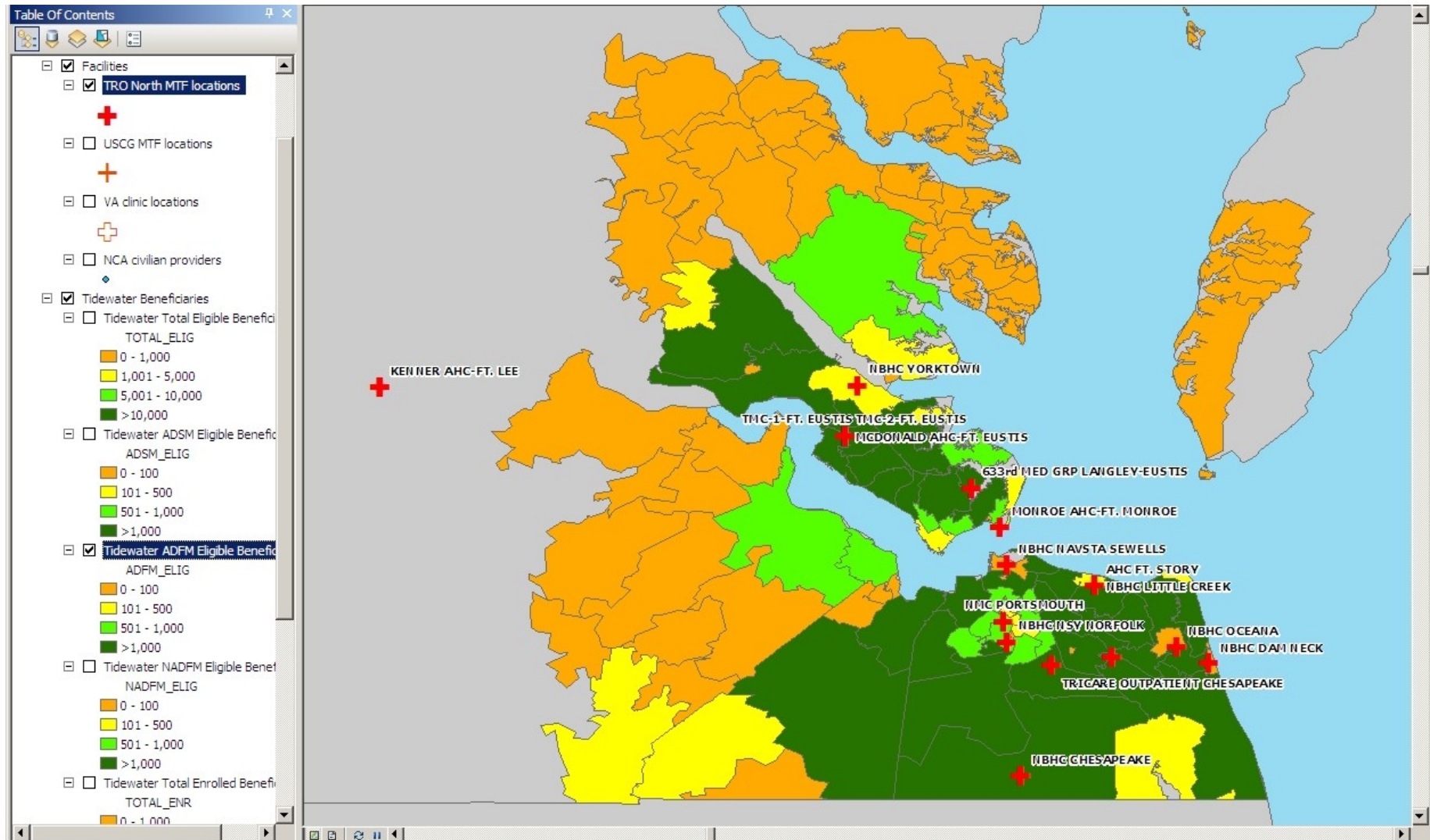
TIDEWATER TOTAL ELIGIBLE POPULATION



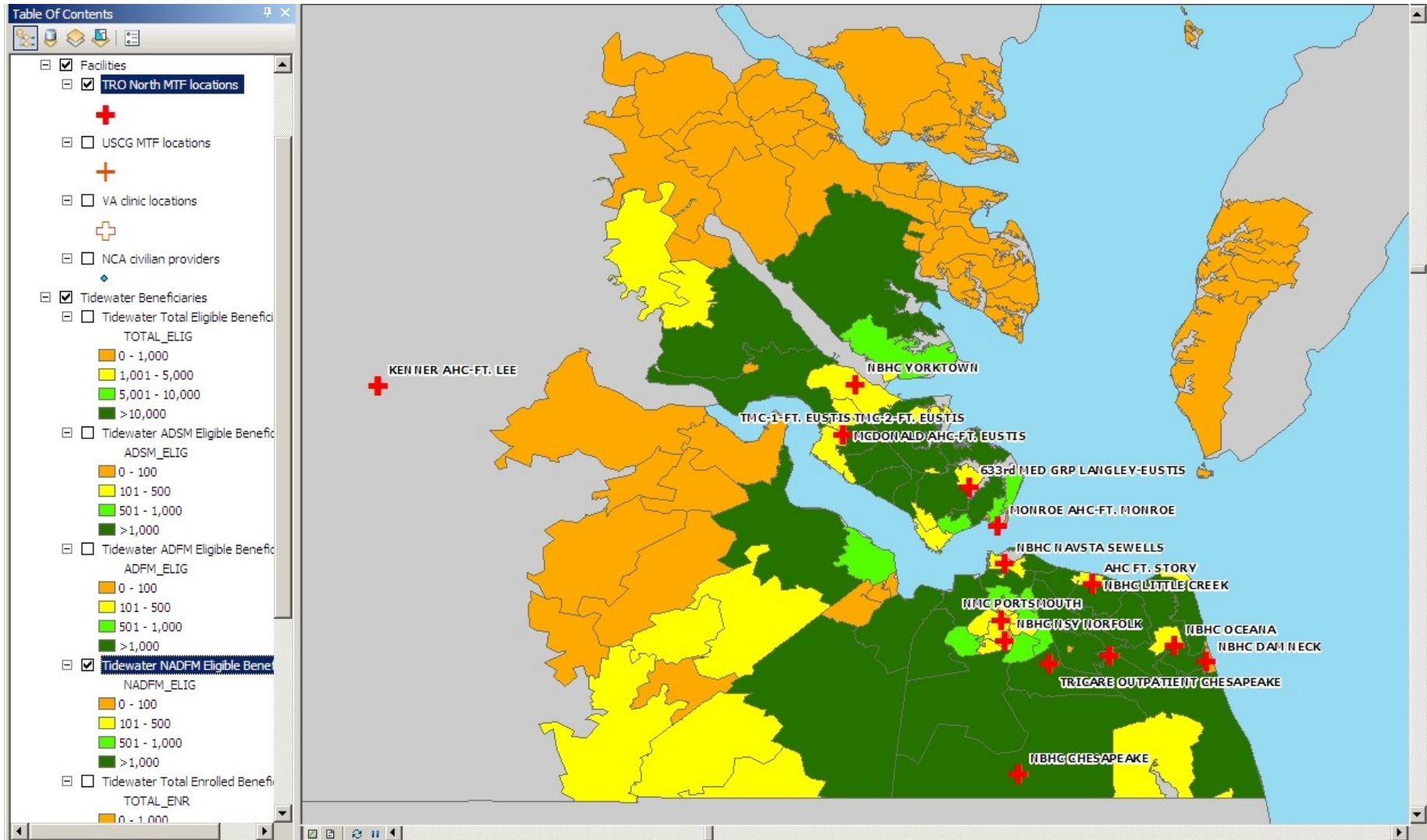
TIDEWATER ADASM ELIGIBLE POPULATION



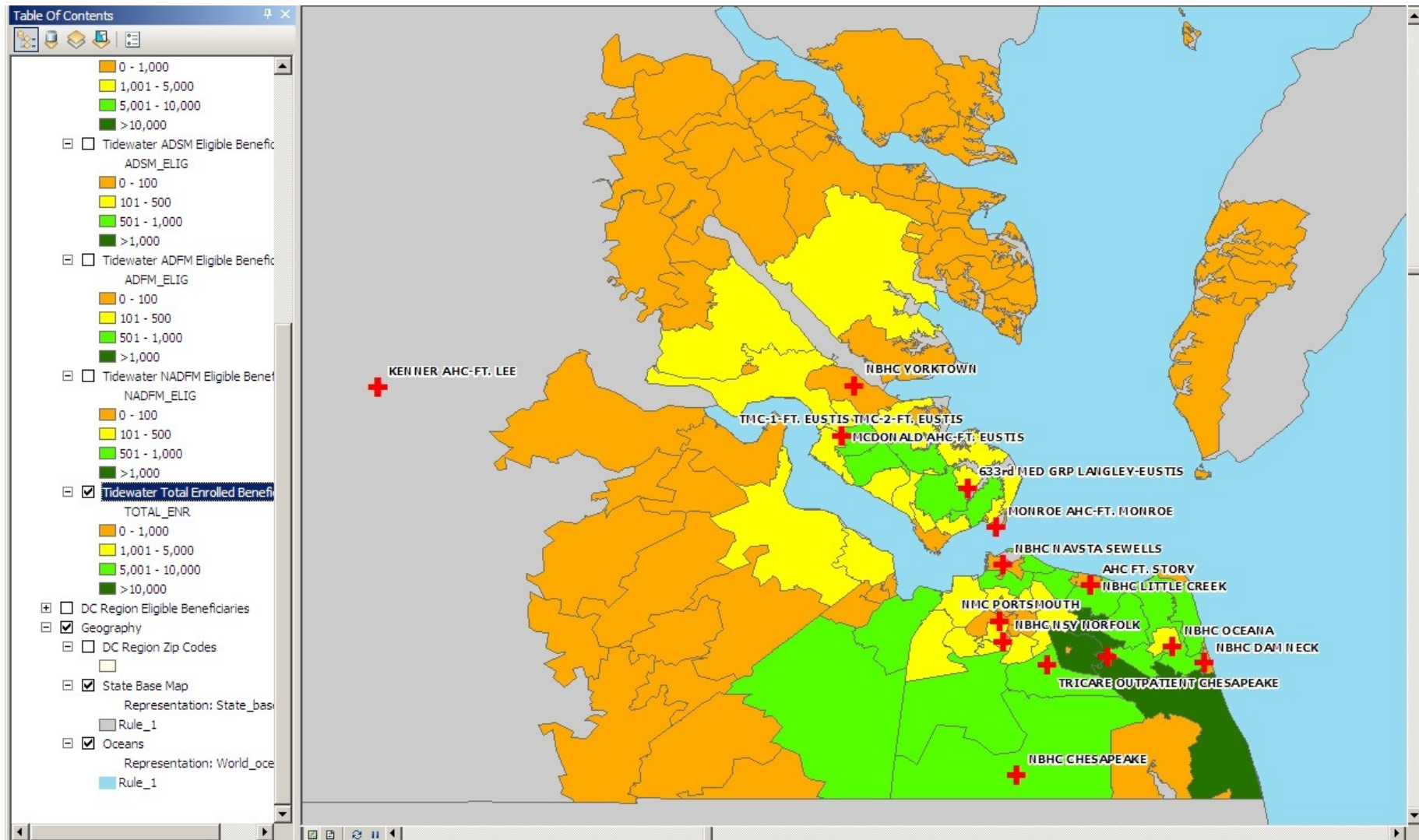
TIDEWATER ADFM ELIGIBLE POPULATION



TIDEWATER NADFM ELIGIBLE POPULATION



TIDEWATER TOTAL ENROLLED POPULATION



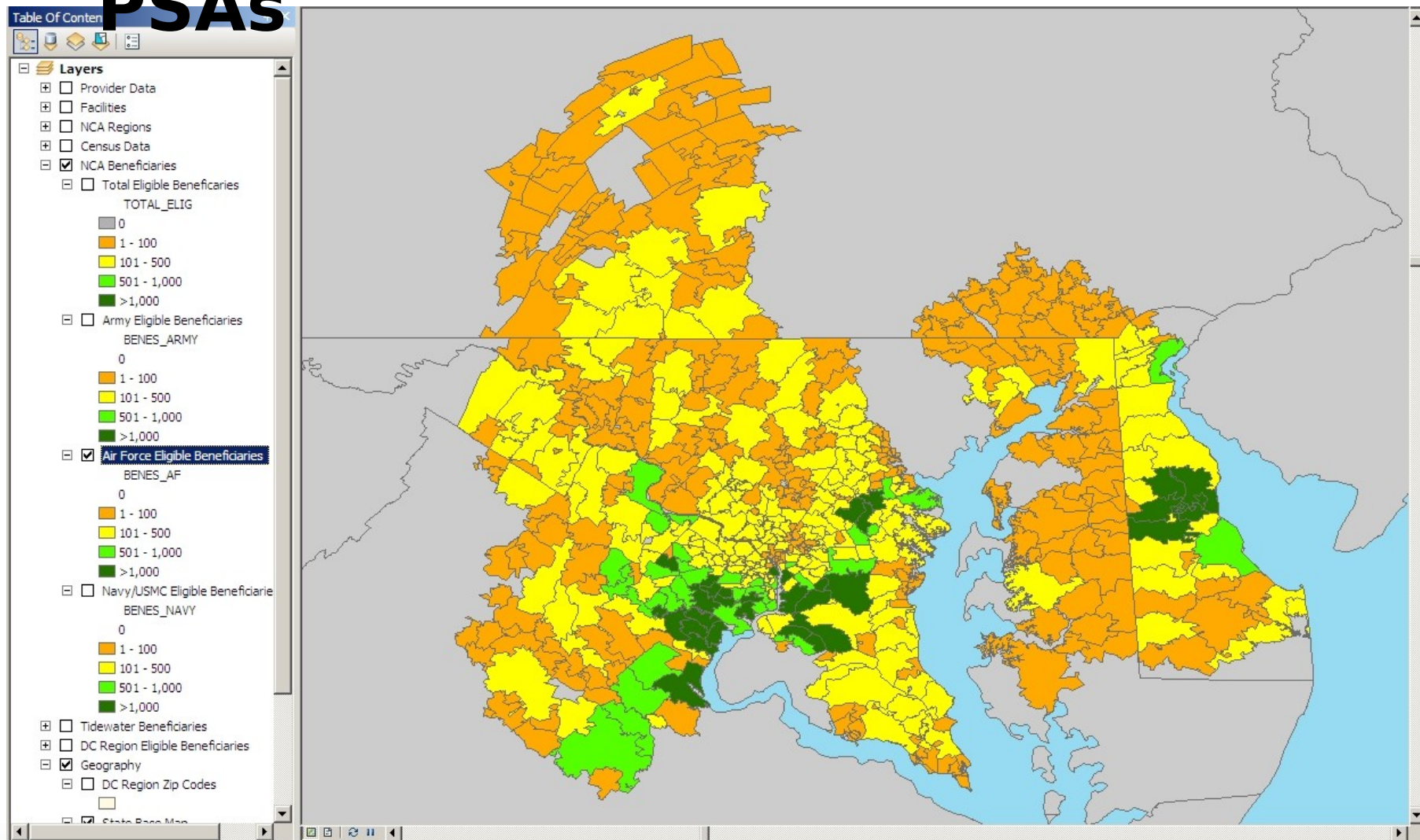


Questions?

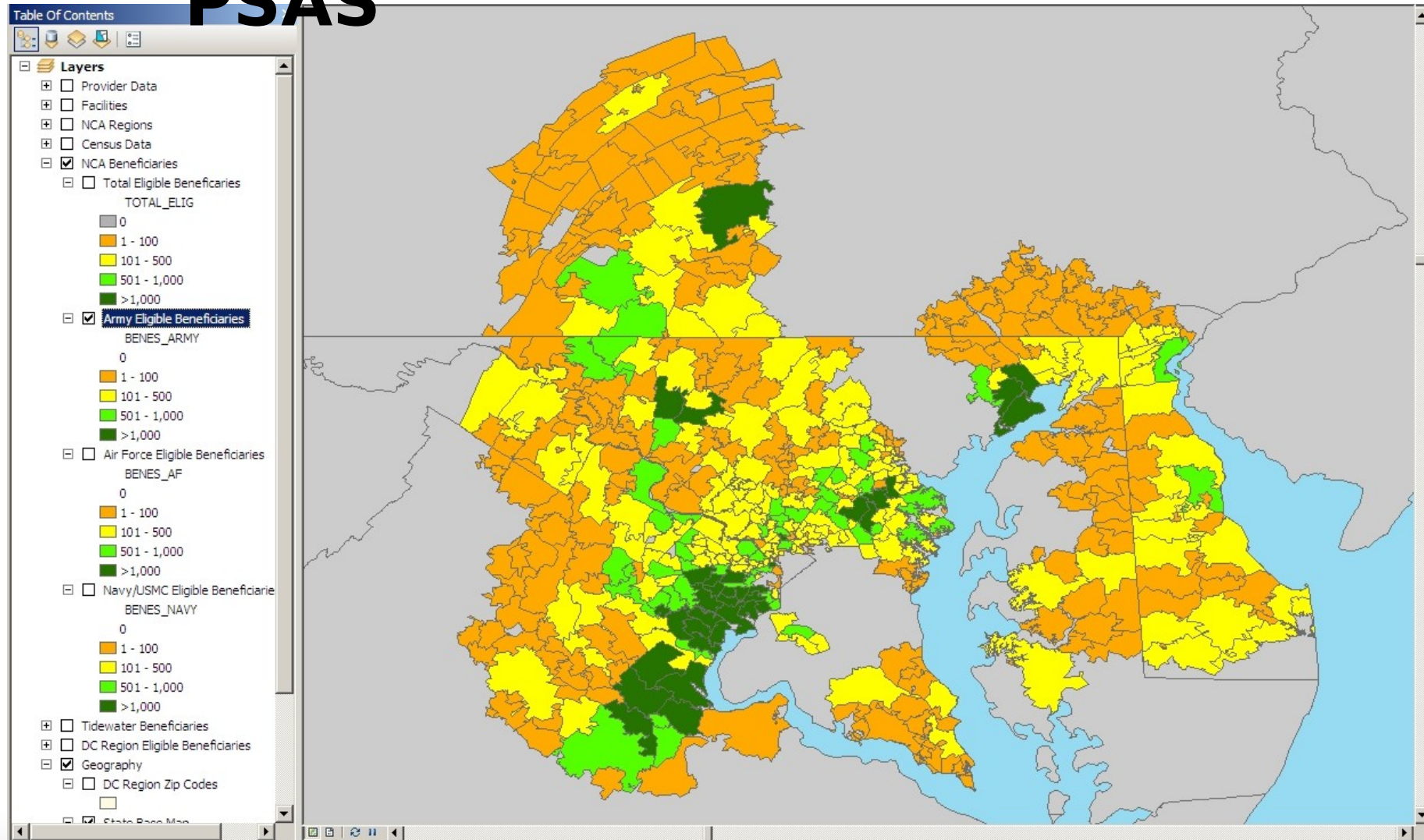
FY10 AIR FORCE ELIGIBLE POPULATION FOR NCA



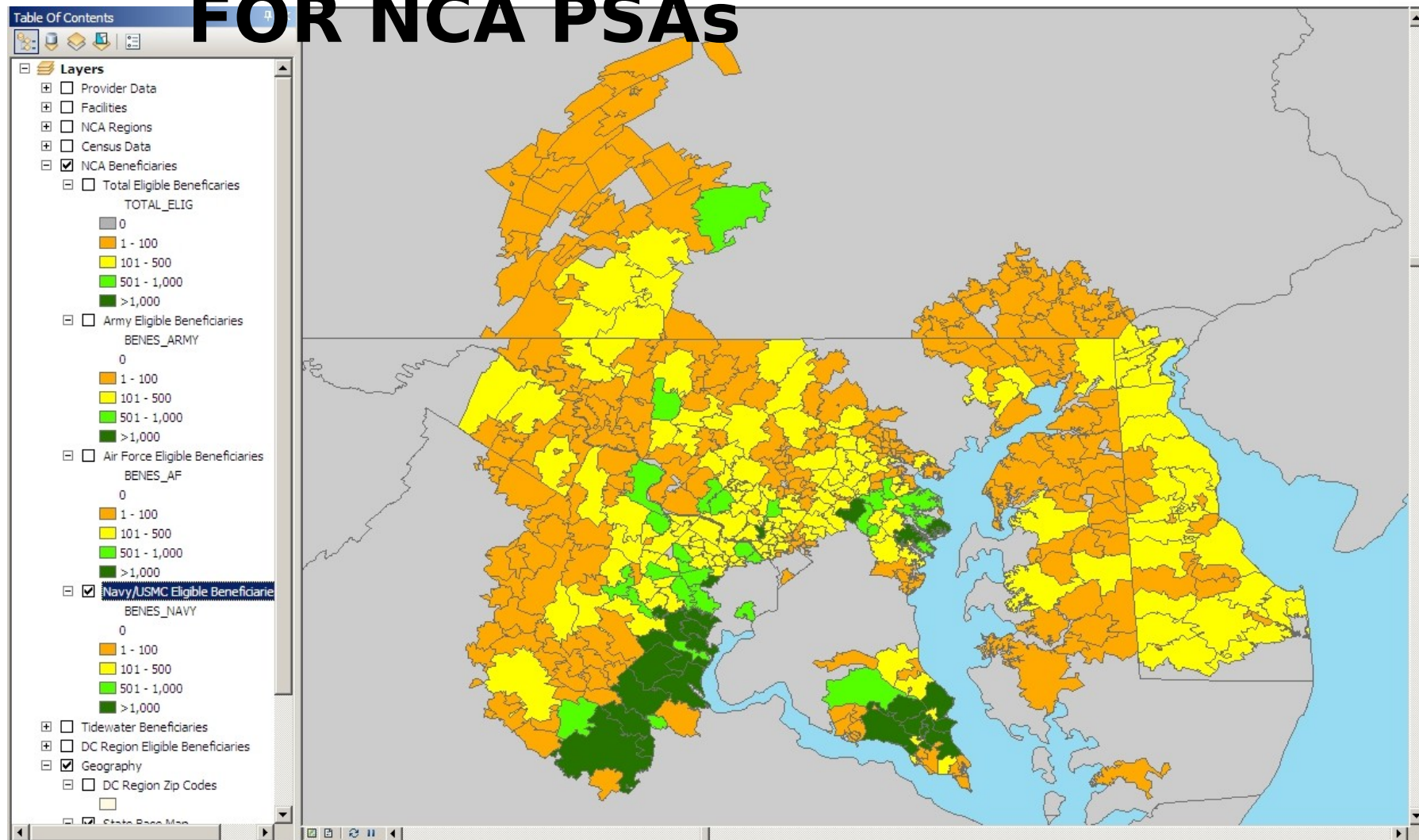
PSAs



FY10 **ARMY** ELIGIBLE POPULATION FOR NCA PSAS



FY10 NAVY/USMC ELIGIBLE POPULATION FOR NCA PSAs



NCA FY10 TOTAL ELIGIBLE POPULATION

